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A collection of the different programs in Ohio for gifted children is presented. The Akron Summer Program has creative learning centers, enrolling pupils from fifth to twelfth grade. Classes are provided in art, music, science, mathematics, writing and dramatics. Creativity is emphasized. Akron Buchtel Literature Seminar is a course for advanced placement for high school with high I.Q.'s and good records.

Alliance Science Program is open to juniors and seniors and offers them a chance for individual work and group discussions. An I.Q. of 120 and a B average is necessary to enter the program.

Cincinnati Summer Program is an enrichment program for able students. Courses offered are in art, note-taking, advanced writing, better reading, mathematics and science. Although it appears on his transcript, the student gets no credit for any of the courses.

Cleveland Heights Literature Seminar involves a group of selected twelfth graders meeting after school hours. It consists of a depth study of John Milton's writing and others of that era.

Columbus Eastmoor Science Seminar involves eleventh and twelfth grade students. The program is based on the individual interests of the students.

Lakewood Sceince Seminar offers 30 students a chance to meet with community scientists and engineers, and to do research and projects on their own.

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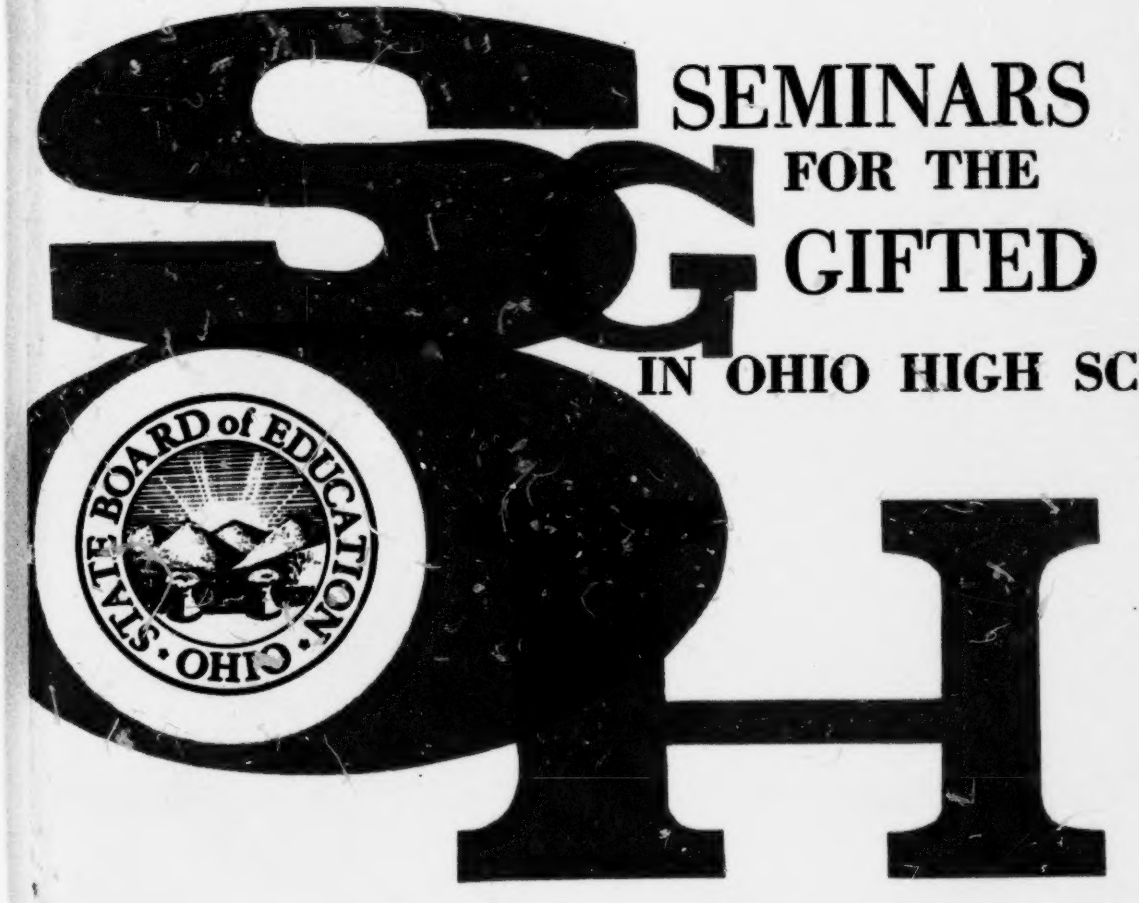

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1962

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SEMINARS FOR THE GIFTED

IN

OHIO HIGH SCHOOLS

A Status Study

by

HERBERT L. COON

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Ohio State University

STATE BOARD of EDUCATION · OHIO ·

Prepared under the direction of

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Director of The Division of Special Education
State of Ohio

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FOREWORD

Ohio's program for the Academically Gifted continues its research and service projects as provided by the legislature. This booklet is a report of seminar activities in a selected number of high schools.

Our purpose in disseminating the information is to make available to interested educators approaches which are being used with the academically gifted students throughout Ohio. The educational leaders in the various schools must determine the desirability of utilizing similar procedures in their situations.

E. E. HOLT,
Superintendent of Public Instruction

PREFACE

Secondary schools that develop provisions for academically gifted students often find it necessary to modify their programs. Such changes sometimes affect the entire structure of instruction; curriculums are manipulated and instructional modifications occur.

While administrative devices do not insure good instruction, they can create an environment which permits creative teaching. Frequently, administrative procedures enable teachers to be more effective.

High school seminars are forms of grouping which are administratively created. The manner in which learning occurs will determine the value of this new development in secondary education.

Dr. Coon has provided a valuable service to educators interested in current trends. Schools that offer seminars can now compare their programs with others. Those who are planning similar approaches may consider using this report when developing their seminars.

THOMAS M. STEPHENS
Educational Specialist
Gifted Programs

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CHAPTER I

INTRODUCTION

Within the past few years there has been a great groundswell of concern for quality education for American youth. While some criticism has been directed toward colleges and toward elementary schools, the major target has been the American high school. During this time public school boards and administrators have continued to work, as always, to build the kind of schools and school programs the public wants and is willing to pay for, and the school systems have done an admirable job of not being stampeded into hasty actions which might help the small percentage of gifted students at the expense of the majority of "average" persons.

There is considerable evidence, however, to support the contention that academically gifted children have not been challenged adequately by some elements of their conventional high school work. Since, for the most part, these bright students are enrolled in the college preparatory curriculum in which they earn good marks, it is assumed they are getting the kind of education they need. The sometimes pitifully obvious special needs of the physically and mentally handicapped child have often received special attention while the special instructional needs of the gifted remained unknown or ignored.

Recently, however, the unique needs of academically gifted students are being recognized. This recognition is occurring not only in newspaper editorials and feature articles in popular magazines but in America's classrooms. Selected groups of students in many Ohio high schools are undertaking college level work in advanced placement courses. Independent study, particularly as it is related to term papers and research projects, is being emphasized. Gifted students are encouraged to assume heavier academic loads in the regular school year and to take advantage of the opportunities in expanding summer school programs. Attention is being focused more carefully on the nature of gifted children and their special needs. New instructional approaches are being developed. Among these the term "seminar" is appearing with increasing frequency in descriptions of instructional programs for able learners.

Little is known of the general nature of high school seminar classes. The content of courses such as mathematics, chemistry, foreign language and English is determined to a large degree by convention and general practice—the common expectations of teachers in these fields of instruction. Similarly there is general agreement about effective methods of teaching these subjects. No agreement, however, exists in regard to what constitutes "seminars" even though several school systems have reported that they offer good promise as an effective instructional approach for gifted students.

Purpose of Study

The writer's interest in understanding more fully this development in educating gifted children was shared by personnel in the Ohio Department of Education. Mr. R. A. Horn, Director, Division of Special Education and Mr. Thomas Stephens, Supervisor of Academically Gifted, approved a research proposal designed to determine, on an exploratory basis, something of the status, nature, and promise of seminars as an instructional approach for academically gifted Ohio high school students.

The investigation was aimed at finding preliminary answers to the following questions:

1. What kinds of seminars are currently operating in Ohio high schools?
2. What school systems have a background of experience with seminar work which they are willing to share with others?
3. What policies are followed in regard to giving credit and grades for seminar work?
4. What procedures are used in selecting seminar students?
5. What scheduling provisions are in operation?
6. How are teachers selected?
7. How are seminars started?
8. What is the general nature and promise of seminar classes?

Nature of the Study

Exploratory letters were sent to forty-eight* school systems in Ohio. In many cases the schools were selected simply because they were among the largest school systems in Ohio; the systems with assistant superintendents or other personnel in charge of curriculum development, the schools who, theoretically, should be in a good position to do program experimentation such as the organization of seminar classes for gifted students. In some cases schools were chosen because they had indicated in previous reports to the State Department of Education that they had developed seminar classes. All schools contacted were advised of the purpose of the study and they were asked to indicate if they had a seminar program that could be studied. Approximately one-third of the schools contacted indicated they, or other school systems, had seminars.

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* Akron
Alliance
Bay Village
Butler County
Bexley
Canton
Celina
Cleveland
Cleveland Heights
Columbus
Coshocton
Cincinnati
Cuyahoga Falls
Dayton
Defiance
Dover
Euclid
Fremont
Girard
Kettering
Lakewood
Lima
Lucas County
Marietta
Marion
Martins Ferry
Medina
Miller
Montgomery Co.
New Philadelphia
Parma
Piqua
Port Clinton
Portsmouth
Princeton
Ravenna
Rocky River
Sandusky
Shaker Heights
South Euclid-Lyndhurst
Springfield
Stark County
Toledo
Warren
Washington Court House
Worthington
Youngstown
Zanesville

The data included in this report were obtained through direct contact with persons closely associated with each seminar program. In most cases the investigation was made while the seminar class was in session. The information acquired through direct observation was verified through conferences with the teacher and/or seminar director and from descriptive material made available. Conferences were held with the principal or other administrator who was thoroughly familiar with the program. Interviews were held with a random sampling of students currently enrolled in the seminars.

On the basis of the information obtained from these sources a short case study was prepared for the 18 seminar programs described in Chapter II. Each school system was given an opportunity to review the description of its seminar, correct misstatements of fact and to react to the writer's judgments concerning the value and promise of the program. Responses from the schools participating in the study have been most helpful in preparing the present manuscript.

Nature of the Case Studies

Each seminar is described briefly in a general overview statement. If the reader chooses to study a case history more completely he will find all or most of the following sections: (1) Program (curriculum content), (2) Admittance of students, (3) Schedule, (4) Staff, (5) Value in the School Program, (6) History, (7) Other Aspects of Interest.

Sections 2, 3, 4, and 6 tend to deal with administrative decisions and matters associated with starting or conducting the various seminar programs. Sections 1 and 5 consist primarily of descriptive material of the learning experiences and judgments by teachers, administrators, students, and the writer, of the value of the seminar experiences in the education of the gifted youth enrolled in them. The reader will, of course, find more opportunity to disagree with judgmental statements, particularly as they appear in section 5 (Value in the School Program), than with statements of fact on items such as schedule, staff, or student selection.

Organization of this Report

The main purpose of this manuscript is to present in reasonably concise and readable form capsule summaries of typical seminar programs in Ohio high schools. These comprise Chapter II and the bulk of this report. The reader will note on the first page of each seminar report the person(s) who may be contacted directly for additional information.

Chapter III presents some tentative generalizations and conclusions supported by the case studies.

CHAPTER II

CASE REPORTS OF TYPICAL OHIO HIGH SCHOOL SEMINARS

AKRON SUMMER PROGRAM – CREATIVE LEARNING CENTERS

General Overview

The summer program in the creative learning centers enrolls pupils from fifth to twelfth grades. Classes are provided in art, music, science, mathematics, writing and dramatics.

Creativity is emphasized and the program has been remarkably successful during its three years of operation.

Program

The content of the program is determined largely by the insight and sensitivity of the teachers selected to staff this special summer session. Teachers understand that creativity is to be emphasized and promoted. Staff and students know that this is not a summer program for accelerating students but rather it is an enrichment experience designed to provide unusual opportunities for students to use their creative talents to a larger degree than is possible in the regular school program.

Student evaluations indicate that they are impressed with the great variety of activities found in this special summer program. They stress the freedom which they feel in undertaking projects on their own, in being encouraged to discuss an idea in greater depth. One student reported that he was thrilled with the opportunity "to try a goofy idea without being considered an odd ball."

Individual work is emphasized in much of the creative learning program. Students were most thankful for the variety of media available for their use in the arts program. An opportunity to develop original compositions in music was mentioned as a high experience by some. The individual creative writing done by students in the writing and dramatics class, together with the opportunity to dramatize some of their writings was regarded as a good experience. As indicated above, the art, music and writing-dramatics aspects of the summer program continue to place major emphasis on creative learning as was intended originally when the summer program was developed.

The information in this report was obtained from Mr. Harry Sabgir, Director, Mr. Ralph Gillman, Assistant Superintendent for Personnel and Dr. William Root, Assistant Superintendent for Instruction of the Akron Public Schools.

Science and mathematics are recent additions to this program and while creativity is emphasized here, too, it appears that fewer opportunities for creative learning have been provided in these fields of instruction. In science the opportunity for individual project work was provided but there was more common structure through scheduled learning experiences such as field trips and films. Similarly students in mathematics were scheduled for "lessons" taken from a new arithmetic textbook series. They were also involved in total group consideration of "brain teasers" and similar mathematical challenges presented by the teachers. Geometric constructions, while of an individual nature, were assigned to all pupils in some of the junior high school mathematics groups.

No credit is given for the work in the Creative Learning Center summer program. Students receive no grades; the program includes no tests and no homework. At the end of the session a student who has had a good attendance record is granted a certificate of participation and this fact is recorded on his permanent record.

Admittance of Students

All pupils from fifth to twelfth grades who are recommended to the Creative Learning Center by teacher and principal are eligible to attend. Parents of children so selected are notified by the director of the summer program that the opportunity is available to their child and that he is eligible to attend upon payment of a fee of twenty dollars. Principals are urged to obtain financial support for eligible children whose parents might not be able to pay the fee. All fifth and sixth grade teachers together with the high school teachers of the subjects offered in the Creative Learning Center are asked to nominate students for the summer program. These nominations together with the principal's approval are forwarded to the director before March 25 and final registration is completed before May 1.

No I.Q. cut-off score is used although, in general, students have scores of 120 or higher. A recent communication from the director indicated that "pupils should be bright as well as talented". All students who were recommended were accepted and, in general, teachers are satisfied with the nature of the summer school operation. Not more than one or two per cent of the students enrolled appeared to be wasting time and not profiting from the opportunity.

Schedule

The Creative Learning Center program is six weeks long—from approximately June 20-July 29. Junior and senior high school students select one area of learning in which they work for three hours daily while the elementary school children work in two areas of learning with one and one-half hour sessions in each. During the 1961 summer session, the city was divided into two geographical areas with one center in each and students were arbitrarily assigned by the location of their home. The classes met from 8-11 a.m. daily.

The number of classes organized for the 1961 session together with the grade location of the groups was as follows:

Teaching Area	*Elementary*	*Junior High*	*Senior High*
Art	4	1	2
Music	—	2	—
Science	5	4	—
Mathematics	5	1	—
English	4	2	2

There is a possibility that in future years elementary art classes will be scheduled for three hour sessions. It is also possible that the English classes which include writing and dramatics may be divided into separate writing and dramatic groups.

Staff

The staff for Creative Learning Centers is selected by joint decision of the assistant superintendent in charge of personnel and the director of the Creative Learning Center program. Nominations for teaching assignments in this program are solicited from all Akron school principals. The judgment of the director of the previous summer program is deemed valuable in deciding what teachers should be invited to serve on the staff. On the basis of these suggestions, then, the two persons previously named make the final selection.

During the 1961 summer session the staff consisted of thirty-two teachers—seventeen women and fifteen men. All were teachers from the Akron public schools and all were special area teachers. Even though some elementary teachers might have been qualified to do an acceptable job of instructing an elementary group in art or music it was felt that the highly trained person would have better success in approaching the subject creatively. The experience of three years has verified this opinion.

Regardless of status on the regular salary scale all teachers in the summer program are paid at a uniform rate of $3.75 per hour (approximately $360.00 for the six week session). During the first two years of operation the program director was a junior high school principal. In 1961, an elementary school principal was named director.

The staff has included some persons with as little as one year of successful teaching experience and others with more than twenty years of such experience. The main criterion used in selecting staff is judgment as to how effectively the teacher can help develop creativity in students.

There has been some experimentation with team teaching particularly in related areas such as music and art where collaborative efforts resulted in a particularly exciting dance group.

Resource persons in the community such as composer, editor, scientist, radio technician, and successful actor-director are typical of the kinds of persons who have made good contributions.

Value in the School Program

The program offered in the Creative Learning Centers is judged to be an important part of a rich and varied summer program of instruction available to youth in the Akron community. Conventional courses in many junior and senior high school areas of instruction are available for students interested in accelerating their academic progress. Similarly the conventional "make-up courses" are offered to students who may have had difficulty with academic work during the regular school year. In recent years there has been growing interest in the courses in accelerated reading, available on a fee basis, for summer school students. Special opportunities for talented youth as they have been made available in the creative learning centers, then, are simply additions to the previous on-going summer school program.

The program is judged by administrators to offer much potential as an in-service education device for staff engaged in the summer program and also for other staff personnel who may be involved in "interesting feedback" from the creative learning center programs. Teachers who participate in this special program are often asked to review the summer program at their regular building staff meetings during the school year. In this process, they point out the kind of creative activities that seem to be of great interest and worth to creative youth.

As teachers are asked to nominate creative pupils for the summer program, they are inevitably involved in thinking about what constitutes creative behavior and what kind of a program may challenge it most effectively.

In general, the student responses to a questionnaire asking for their judgment about the summer experience were flattering as is indicated by the following examples: "I like it here (the Creative Learning Center) and I wish every child had the attention I got here." "I like the classes very much and I will try very hard to be able to come again next year." "I think creative arts is a wonderful thing. I feel that it keeps the summer from being boring. It is too bad that more students are not able to attend." "I think that the entire school system should be set up like this. You get a chance to learn more."

History

The Creative Learning Center Program was started in 1959 as a result of administrative decision. The superintendent of schools in collaboration with a junior high school principal established the first summer session in what was called a Creative Arts Center. In subsequent years the addition of mathematics and science to the program has been instrumental in changing the name to Creative Learning Centers and in the judgment of some persons the program has moved away, in somewhat disturbing fashion, from the primary emphasis on the creative arts. However, the cultivation of creativity remains a primary objective.

The first year enrollment was 251 students, second year 311 students, and during the third year when the program was operated for the first time in two centers 716 students enrolled. This number has been achieved with minimal publicity and it is likely that if the program would be available in three or more centers an enrollment of more than one thousand pupils would result.

It is apparent that the program, new as it is, has become an important and exciting part of the total school offering in the Akron Public Schools.

AKRON BUCHTEL LITERATURE SEMINAR

General Overview

Some of the advanced placement courses in Buchtel High School contain elements of typical seminar classes. The areas of history and literature have lent themselves most readily to this approach and the illustrative material in this report is drawn from a course in American Literature.

Reports of this nature could be, in the writers' judgment, prepared for advanced placement courses in several Ohio high schools not included in the survey. This condition illustrates the difficulty of deciding what is, or what is not, a high school seminar class.

Program

The material for the American Literature Seminar, which is carried on the school schedule as an English IV honors course, is drawn primarily from a list of 247 titles compiled by the course instructor. These include some of the well known writings of American authors such as Tarkington, Dreiser, Hersey, Wilder, Hemingway, Hawthorne, Twain, Faulkner, Steinbeck, Caldwell, Sandburg, Thoreau, and many others.

Students spend most of their out of class time in research reading from this list and in writing detailed reports on some of their readings. In one semester some of the most able students in the class will read from 5,500-7,000 pages of material selected from the bibliography.

While it is presumed that seminar students will spend approximately twice as much time on outside reading as is expected of students in regular classes an effort is made to assure that this is not simply "busy work". Seminar students are expected to become familiar with more authors as well as to understand more completely a single author through a more comprehensive reading of his works. The emphasis is on quality of reading rather than on quantity even though, as indicated earlier, students are expected to do much reading.

In their written reports students are expected to cite specific evidence from their readings to support their contentions about the author's

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The material in this report was obtained from Mr. Oscar L. Schneyer, Principal, and Mr. Vincent Bionda, English teacher in charge of the American Literature Seminar.

style, the nature of the characters, or other elements of good literary criticism. They are expected to compare the author's style and/or his characters with those found in other works and to cite reviews of his works which they have read.

Considerable class time is spent in hearing short and concise oral reports of these readings and frequently several students present a joint report or criticism of work which they have read during the same general period of time.

Admittance of Students

Students are admitted to advanced-enriched courses in Buchtel High School only with the permission of a sponsoring teacher, counselor, and parent. The students' intelligence and past academic records together with specific test scores in the areas in which they wish to do advanced work are considered by teachers and counselors in reaching their decision. In general, students who qualify have I.Q.'s of 125 or higher and a scholastic record of primarily A's.

Admittance to an advanced placement or honors course is always subject to review and a student who earns a grade of C in the advanced placement program is generally advised to transfer to a regular class. In the field of English three additional groupings of students are made and consequently, the English program might be regarded as consisting of "five tracks".

Schedule and Staff

The honors course in English in which the seminar approach is used is scheduled in one period of the regular schol day. The relatively large size of this senior high school (1,782 students) makes possible multiple sectioning of classes so that homogeneous groups of students can be scheduled easily.

Teacher preference as well as demonstrated performance is considered in administrative assignment of teachers to advanced or regular sections. The instructor of the honors course considered in this report has had a successful and long tenure in the system and is obviously willing to work harder than his students to make the course an interesting and challenging one.

Value in the School Program

The advanced placement and honors courses have been found to provide the kind of challenge needed by students who desire to use their superior intellectual ability and become excellently prepared for college work.

The school believes that when homogeneous groupings are used, outside reading and writing assignments can be determined more fairly and the effect, in general, is salutary. The school administration is rightfully proud of the scores made by its students in such tests as SCAT, PSAT, and NMSQT. The school is convinced that advanced placement and honors courses have done much to "beef up" the entire program of instruction offered in the school.

History

In 1957 the school offered one advanced placement course in English which enrolled 17 students. Since that time the program has grown to include 13 areas of study with an enrollment of approximately 125 students (slightly less than 10% of the student body). The success of the advanced placement program led to the establishment of courses slightly below that level (honors courses) and the expanding enrollment at both levels indicates that the programs are still in the rapidly growing stage.

ALLIANCE SCIENCE SEMINAR

General Overview

The Joe Berg Science Seminar Program is organized, generally, along the lines proposed by the Berg Foundation and described elsewhere in this report.[1] Meetings are held weekly—Tuesday, 7:00 to 9:30 p.m. with adjustments in meeting schedule during examination and vacation periods. During its first year the seminar met throughout a continuous calendar year.

The seminar is open to juniors and seniors, enrolls approximately twenty students (less than 2% of the student body) and was started in April, 1959.

Program

The program contains the usual areas of study found in Berg Science Seminars. Heavy involvement of scientists, engineers, and college professors in the community was obtained in the study of the nature of matter, the nature of life, light, atomic structure, nuclear energy, synthetic materials, electronic computers, physical properties of materials, catlysts, corrosion, and meteorology.

Students are urged to undertake individual projects but they report that it is difficult to find time to do project work since they are expected to do this outside of the regular school program. At times it has been difficult to schedule a community resource person to work with the student on his project.

Students report that they normally spend some time between meetings on background reading on topics considered by the seminar group or in reading on their own project or area of study on which they are expected to report.

At an evaluation meeting observed by this reporter, students were asked to offer suggestions for improving the program in the next year. Several students indicated that they would like to be involved more heavily in planning the nature of their meetings. This idea was not

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The material in this report was provided by Mr. Donald Rankin, of the Alliance High School staff, and by Jim LaFountain, John Messenheimer, and Bill Sutton, Science Seminar members.

[1] In many respects the Alliance program is similar to the Marion, Ohio program found on page 44.

accepted by some students who were quite pleased with the presentations that were being made by experts scheduled by the lay planning committee. After considerable discussion there was agreement that a faculty-student program planning committee might be a promising idea. There was some feeling that less emphasis should be placed on large group discussions and more attention should be given to organizing small teams, or small research groups, which might concentrate on areas such as electronics, biology, or chemistry.

The program has little planned relationship with the regular high school science program and students indicated that they would like to see the program supported more actively by their regular science teachers.

The director (a high school social science teacher and guidance counselor) has assumed more responsibility for leading student discussions during the seminar meetings than occurred in the other seminars visited.

Admittance of Students

Major responsibility for selecting students is assumed by the director of the seminar program. Students with an I.Q. of 120 or higher who have a B or better average in their past academic record are considered eligible. These students are invited to complete an extensive questionnaire in which they make application for membership in the seminar group. The questionnaire asks for information on future vocational plans, special honors received, past accomplishments in science, use made of free summer time, and why the applicant wants to become a member of the seminar group. Students sign a statement in which they pledge regular attendance and in which they agree to work hard to make the program successful. Written parent permission is also necessary.

The Westinghouse Science Talent Test is administered as a final screening device and the class roster is determined by the director as he consults with others who can assist him in this matter.

Schedule

A master schedule is prepared for weekly meetings although during special times such as Christmas vacation two or three weeks may elapse between meetings. During the first calendar year of operation from April 8, 1959-April 5, 1960, forty meetings were scheduled. During this time many community resource persons were scheduled to lecture or provide demonstrations in their science fields. Science teachers from Mt. Union College and scientists from Babcock-Wilcox, Armour, and community engineers and physicians provided most of the staffing.

Value in the School Program

The vocational overview of various fields of science as this is provided by lay scientists is regarded as one of the outstanding strengths of the seminar program. One student decided to become a biology teacher as a result of his experience while another boy decided that he did not want to continue his choice of engineering as he learned more about it. Meeting successful scientists and engineers and learning to see things from their point of view was underlined by students as one of the outstanding values of the seminar.

Students reported that they liked the idea of being able to discuss "far out ideas" and they also liked the fact that it was permissible to make mistakes in their seminar work without being penalized for these errors.

It was also reported that the seminar provided an opportunity for the able student to go far beyond where he could go in his regular classroom work.

As indicated earlier it was believed that the program could be even more valuable if it could be integrated more effectively into the regular high school science program.

History

It appears that members of the board of education developed the initial concern for establishing this science seminar program and, somewhat reluctantly, the administration accepted the responsibility for carrying it through. In a very real sense board of education pressure pushed through a "crash program" which found leadership for this seminar assigned to a high school staff member in January, the group selection process completed in March, and the program begun April 8, 1959. The program received good support from community scientists and engineers during its first year but this has "cooled" somewhat. Serious questions were being raised in the spring of 1961 about the value of continuing the program. Lack of commitment on the part of the high school science teaching staff has been a persistent problem.

CINCINNATI SUMMER PROGRAM

General Overview

In some of the courses offered in the summer enrichment program of the Cincinnati schools a seminar approach is used. The enrichment program is designed to extend the educational opportunities for able high school students. Credit earned is not applicable to graduation requirements although it appears on the transcript record and students do a quality and quantity of work which exceeds state requirements for full credit.

During the first summer of the enrichment program courses were offered in art, notetaking, advanced writing, better reading, mathematics, and science. The material in this report describes the biological science seminar program.

Program

The biological science enrichment class (seminar) emphasized field trips and individual project work. Thus it extended and broadened the learnings which had been attained by students during their regular biology courses in the previous school year. The program was not designed to be an "advanced course" but, rather, was planned to offer experiences which could not be scheduled easily in the regular school year.

The content of the course, as it was determined by many field trips, was selected by the seminar teachers and science supervisor. Student choices were honored to a large extent in the definition of individual project work.

Sixteen field trips were taken and students report great satisfaction with these experiences. Outstanding trips included a visit to the Museum of Natural History where they were able to "go behind the scenes" and see how technicians prepared the exhibits. The visit to the Zoological Garden was mentioned as particularly worthwhile. Other trips included one to an Arboretum, to a Taxidermist, and several collecting trips to

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The material in this report was obtained primarily from Mr. Ralph E. Shauck, Director of Secondary Education and the following students: Gale Davis, Linda Walker and Marilyn Kirschner.

parks and similar points of interest. The trip to a Cincinnati Drug Manufacturing Company was mentioned as a high point by one student as was the trip to the University of Cincinnati Medical School. There was agreement that the outstanding trip was the one arranged (after much effort) to the Aero-Space Laboratories at Wright-Patterson Air Force Base in Dayton.

Students invested many hours in working on individual projects. They made heavy use of school libraries, the general public library, and some smaller technical libraries in doing the background reading for their investigations. Teachers served as resource persons in helping students work through problems on their own terms. Project titles included the following: Reflex Action of Amphibians, Photomicrography of Protozoans, The Effects of Colored Lights on Hamster Behavior, The Effects of Germicidal Antiseptics on Bacteria, The Inheritance of the White Eye in the Fruit Fly, The Learning Ability of the Domestic Rabbit. Students reported that they enjoyed the sessions when a student described his project and solicited ideas, comments, and evaluations from other persons in the group. Consequently, even though students were working on a single project they were aware of what others were doing and were learning from their experiences too.

For transcript purposes students earned one credit and a grade in biological science seminar for their seven weeks work. The grades were primarily A's with a few B's. The credit is not applicable to meeting the graduation requirements of the Cincinnati School System nor is the grade used in calculating standing in the graduating class. It is believed that the granting of credit and grade is useful only in the case of students who transfer to other high schools or for the purpose of documentation on a college application. It is believed that students selected for this program are motivated by factors other than credits and grades.

Admittance of Students

Students are expected to have a high level of academic ability as well as the special knowledge and skills needed in some of the enrichment classes. An I.Q. of 120 is considered as the acceptable minimum although in special cases some exceptions are made. Attention is given to factors such as interest, enthusiasm, attitude, work habits, health, and it is officially stated that "the classroom teacher is in the best position to evaluate a student on the basis of these factors."

The selection procedures required that the classroom teacher recommend only students who were currently enrolled in his classes. The individual school offices (counselor and/or principal) then collected data on the recommended students to see if they met the criteria established by the central office. Eligible students were then called together on a school basis and were informed of the fact that they might enroll in the enrichment classes. Written parent permission was also required. Selection procedures resulted in the establishment of groups of very superior youngsters with, in some cases, the median I.Q. being in the high 140's.

During the first summer's operation only regular Cincinnati Public School students were permitted to attend the enrichment classes. Next year it is likely that the classes will be available to all children who reside in the Cincinnati School District.

Final decision for admittance rested with central office personnel although as indicated above, the classroom teacher and the school principal played extremely important parts in providing necessary data.

Schedule

The classes were scheduled in five widely separated Cincinnati High Schools. The biology seminar referred to in this study met in only two of the five centers but other enrichment classes identified earlier were held in other schools.

All summer enrichment classes earning one credit met for 40 sessions of 4 hours each. Classes were held six days a week from 8:00 a.m.-noon. Classes that earned one-half credit met on alternate days during the same period of time.

By arrangement the biology group occasionally spent an entire day on a field trip and "skipped" some other half day sessions. Students reported that it was not unusual for class members to stay after lunch and work for several hours on their projects.

Staff

The seminar teachers were selected by joint decision of the teaching area supervisor and the directors of secondary education and teacher personnel. From the large teaching staff in the Cincinnati Public Schools it was possible to "hand pick" teachers who would have outstanding success in working with gifted children in this enrichment learning program. The two science teachers who participated in it were excellently trained (one had a Ph.D. in Zoology) and both enjoyed the success which had been anticipated for them.

Value in the School Program

Cincinnati has had, for many years, a very strong summer school program. Prior to 1960 the summer program was offered in only two senior high schools and in one junior high school (exclusive of the vocational program). In 1960 the program was made available in all of the senior high schools and during the 1961 summer session, 8,945 students were enrolled. Many of the students taking summer work are not taking "make-up courses" but are taking extra work which, for various reasons, they find difficult to schedule during the regular school year or they are taking enrichment work as is illustrated by the 400 students enrolled in the 1961 summer session courses in band and orchestra.

The Cincinnati Public Schools are in the writer's judgment, somewhat unique in that no tuition is charged for any summer school work.

During the regular school year Cincinnati has a program which includes advanced placement and similar courses designed for able students but it is felt that the summer enrichment program described in this report could extend still further the educational opportunities for outstanding students. The values associated with the biology seminar were felt to be, in part, those associated with greater flexibility in use of time. As a result of the larger block of time more field trips were scheduled, more project work done, students made better use of the library, and they concentrated more completely on one field of study.

It is felt that the enrichment seminar helped develop still more the already good leadership characteristics of many of the students enrolled in it and that they will take back into the regular school program several things of value to themselves and to other students.

It was noted that the program was proving to be a good public relations instrument. Some industries and research groups who had reservations about what a high school group could get from a field trip to their establishments were completely convinced of the seriousness of purpose and the understanding of these students.

Students mentioned that they valued the idea of learning from their classmates. They appreciated the opportunity they had to learn about unusual things through personal experimentation. While they liked the chance of being able to work independently a few students indicated that they found it a bit hard at first because of previous lack of experience with independent project work. One girl observed that this seminar approach might be a good idea in a regular school year "if the kids didn't get out of hand." She believed that she and other students involved in the summer program would be able to operate effectively with this approach if it were used in the regular school year.

History and Other Aspects of Interest

The original idea of establishing such a program for the summer school came from the associate superintendent in charge of the Department of Instruction. As the directors of secondary education and instructional evaluation in the central office developed a plan it was checked repeatedly with the supervisory staff, with members of the Curriculum Advisory Committee which includes teachers and school principals as well as central office personnel, and with the secondary principals' group.

During the first year of operation slightly more than one hundred students were involved in the summer enrichment program but this number was substantially below the original estimate of two hundred and fifty.

Insufficient student enrollment (less than 15) resulted in cancellation of proposed seminars in home economics, music history and appreciation, music theory and appreciation, calculator techniques for the science laboratory and engineering office, physical science, advanced electricity and electronics, and an interesting possibility in social studies entitled—*Ideas That Shape The World.* It is predicted that some of these areas will become established parts of next summer's program.

Several administrative details associated with big city school system operation will need to be worked through in the months ahead and these include: (1) improving selection procedures so that more of the students who should be participating in this program get identified and encouraged to do so, (2) making certain that the program is as flexible for gifted children as it ought to be, (3) locating the seminar groups in such geographical positions as to minimize the transportation problems which some students reported, (4) adequate pay for outstanding staff members selected to work in the program, and (5) re-examining the length of time for which the program should be scheduled.

Students and teachers who participated in this first program were pleased with the results as evidenced by their written evaluations as well as by the feelings that were evident throughout the entire seven weeks session. The program was judged to be very successful and it is predicted that it will expand in the years ahead.

CLEVELAND HEIGHTS LITERATURE SEMINAR

General Overview

The Milton Enrichment Seminar in this school involved a small number of selected twelfth grade students meeting after regular school hours.

The content consisted of a depth study of John Milton's writing, particularly of the concepts which appear regularly in his writing and in the writings of other authors of that era. Students were urged to read widely from a challenging bibliography prepared by the instructor.

The seminar began in February, 1961.

Program

The approach used in the seminar consists of an intensive study of the writings of Milton and related works. Titles in the bibliography suggestive of the material studied include the following: Milton's *Paradise Lost,* Milton's *Rabbinical Readings, A Milton Handbook, The Student's Milton, The Classical Mythology of Milton's English Poems; Fallen Angels in Jewish, Christian, and Mohammed Literature, The Devil in Legend and Literature,* and the *Exhaustive Concordance of the Bible.*

Lectures and teacher-led discussions occupy prominent places in the course. While students are urged to read widely they are unable to read as much as they or the instructor would like due to the ongoing demands of their regular curriculum. No written reports are required since all seminar students are also carrying a regular Senior English course. The program has a major aim of developing student awareness of what is involved in a scholarly pursuit of knowledge. Students are expected to use a bibliography in a cross-reference fashion and to acquire skill in making the kind of depth studies expected of persons with their ability.

The high degree of structure which the teacher has built into the seminar has been received well by students, many of whom indicate a desire for a continued, progressive narrowing of material to be covered on the assumption that this might result in still greater understanding.

Information concerning this seminar was provided by Mr. Sanford Reichart, instructor, and several seminar students including Gale Lindsay, Tom Hall, and Lee Cutler.

Admittance of Students

All students enrolled in the twelfth grade honors course in English were asked by the English department head to indicate whether they were interested in this Milton Enrichment Seminar. The majority of students enrolled in the Seminar were from this group although a few students were identified by teacher recommendation from students enrolled in the regular English program. In general, however, the seminar students have made an almost straight "A" record in English and they generally possess I.Q.'s of 130 or higher. Written parent approval as well as student interest was required from the 22 students who started the course. Student enrollment dropped during a period of twelve weeks from 22 to 14, the withdrawals were associated generally with students becoming increasingly busy in taking on extra responsibilities such as the yearbook, orchestra, and other activities.

Schedule

The class is scheduled on Mondays after school from 3:00 to 4:00 p.m. although student interest usually resulted in an extension of meeting time to two or more hours. Many students have indicated preference for a Saturday morning time from 9:00-12:00 or for a "last period study hall time" which might be extended into after school time.

Staff

The seminar is taught on a pilot experimental demonstration basis by a staff member who has a supervisory and research assignment in program development for high ability students in the Cleveland Heights public school system. The instructor's experience has been primarily in working with elementary and junior high school pupils and in working with special groups of gifted children in summer demonstration schools. The instructor has taken advanced work in the field of Seventeenth Century Literature and by training and interest is uniquely qualified to offer this seminar.

The instructor believes that team staffing of the seminar would be a good idea and during the planning stages the team should include, in his judgment, instructors from the college level who might be consulted on the matter of appropriate content. In this process the college instructors might become better informed of the interest and capabilities of gifted high school students.

Value in the School Program

It was believed that a course might be developed which would go beyond the existing honors program in challenging particularly able and interested students. Since no credit or grade is given for the course, it is designed, in part, as a stimulation for selected students who are interested in pursuing knowledge for its own reward. Students have welcomed the opportunity to study major "underlying themes and ideas of literature" and not be held responsible for the small facts and skills frequently emphasized in regular English classes.

One student caught the intent of the course when she reported "the ideal of education should be a program of seminars in all subjects with a minimum of routine work and a maximum of analytical study and creative research. Perhaps this could be stated as less emphasis on teaching and being taught and more on learning and helping to learn."

History and Other Aspects of Interest

The seminar program began in February, 1961 and has enrolled approximately twenty students. The seminar is largely the "brain child" of the present instructor who chose to test the seminar approach as a way of challenging high ability students. His idea received, of course, the necessary support from the head of the English department and from the assistant superintendent of schools.

The experience which the teacher has had in working with gifted children in other situations and his familiarity with the literature in this field of education are clearly evident.

The instructor of this course and several students enrolled in it are of the opinion that the seminar approach could be used in many other classes. The approach, in their judgment, is applicable to other fields of instruction. It could be used with students of lesser ability also.

COLUMBUS EASTMOOR SCIENCE SEMINAR

General Overview

The science seminars in the Eastmoor Junior-Senior High School were started in 1958. A total of twelve eleventh and twelfth grade students are involved in a senior seminar while an identical number comprise a junior seminar group.

Individual student interests are given high priority in determining the seminar program. The class meets two times per week during the regular school day.

Program

The prime focus in this seminar program is to provide students with an opportunity to extend and/or develop individual science interests. Individual research projects, which often require much reading, are emphasized. Discussions are held occasionally in planning for or following up a field trip but there are few discussions on topics selected by the instructor and very few common reading assignments. Often group discussion will concentrate on elaborating ideas advanced by a student while making a progress report of his individual research project to other seminar members.

Field trips are considered to be an important part of the seminar program since the smaller numbers of students with a higher level of ability and interest than is found in regular classes makes a field trip an excellent learning experience. It was also reported that missing other classes for a field trip was no particular problem for these selected students.

Student projects underway recently included a study of the half-life of an iodine isotope, an experiment on the learning ability of rats, and a reading investigation in the field of psychology and anthropology.

In 1958 the students in both seminar groups presented a program on developments in the field of rocketry to the Columbus Council of Parent Teacher Associations. The following year the two seminar groups presented a special science assembly program to the student body.

The information in this report was obtained from Mr. Theodore H. Mayer, principal, Mr. Donald Murphy, teacher, and the following students: Dan Fleming, Jeff Covel, Sandra Maxwell.

Admittance of Students

The teacher of the seminar groups invites all mathematics and science teachers to recommend students who might profit from this class. From these recommendations the seminar teacher selects promising candidates for a personal interview. One of the key questions asked is "What would you do if you were in the seminar." It is believed that the manner in which the youngster can answer this question readily and can document his seriousness of interest can do much to help select students who will work well in this relatively free situation.

The approach used has, in general, selected students with an academic record of B or better and an I.Q. of 120 or higher.

While the junior seminar class is composed of students from the ninth and tenth grades a notable exception has been made for a precocious elementary school pupil who has developed science interests beyond the level attained by many high school students. It appears certain that he will be admitted to the senior high group, normally composed of eleventh and twelfth grade students, before he reaches that grade level. This boy recently presented the Eastmoor science seminar plan at a meeting of the Columbus Lions Club.

Schedule

The seminar groups meet two days per week for a single period (forty minutes) and this time alternates with students' laboratory periods or with study halls.

Students may use the seminar room (a physics laboratory) for work on their projects whenever they have free time. Students often work before or after school and they may, of course, work at any time when they are scheduled for a study hall. Students have, on occasions, worked on these projects on Saturday mornings but it is quite customary for students to spend homework time on their projects or background reading associated with the seminar.

Staff

The seminar is staffed by a successful science teacher. He has completed his master's degree in the field of science education and developed his thesis on the question of how to provide for exceptional children in the regular classroom. The seminar director does not regard himself primarily as a teacher for these students but rather sees his role as one of arranging conditions so that students may work more effectively on their own fields of interest or broaden their interests into fields of science previously unknown to them.

Other science teachers in the school are used as resource persons on project work. Students in need of special help have been referred to members of the Ohio State University staff or to other scientists in the community who may be used as resource persons.

Value in the School Program

The science seminars were added to provide an opportunity for challenging gifted students beyond the level possible in the regular classroom program. It was believed that such an arrangement would give gifted students a chance to go more deeply in the fields of their special interests than would be possible otherwise. Such a class would give students a better opportunity to develop interests in possible scientific vocations. Such an arrangement would give special recognition to students who are talented in science in such a way as to upgrade its importance throughout the entire school system. Administrators believe that this goal has been achieved and that outstanding students in science now get a kind of peer recognition roughly equivalent to that given to good athletes. It is reported that recognition in one field does not prelude recognition in the other.

The high level of interaction which occurs when good minds are brought together was observed to be another very valuable aspect of the course.

Students appreciate very much the opportunity they have to work in the laboratory several times during the week as they do the fact the teachers are more available to them.

Both students and faculty suggest that the success which they have had in challenging youngsters to do high level work through their voluntary individual projects might be used effectively in other aspects of the school program too, particularly for able students.

History

The seminar was established primarily by administrative decision between principal and the science teacher who had been a very successful science club sponsor. It was believed that the success of the science club could be deepened somewhat by organizing a more selective group which could be scheduled to meet during the regular school day.

The seminars have been very successful during their three years of operation and have a secure place in the school program.

LAKEWOOD SCIENCE SEMINAR

General Overview

The science seminar program in the Lakewood Public Schools was started in 1958 and has enrolled approximately 30 students per year. The seminar meets on Monday nights, 7-9 p.m., and is conducted, generally, along the lines suggested by the Joe Berg Foundation which are described elsewhere in this report.

The seminar appears to be an important part of the program available to gifted students in this school system.

Program

The first year of the science seminar program was planned collaboratively by 25 scientists and engineers in the community and school officials including the high school principal, curriculum director, and science teachers. The subsequent planning necessary to continue the program has been taken over primarily by two laymen—a project chairman and a program chairman—and the representatives from the school as identified above.

The content of the program is primarily from the fields of physics, chemistry, biology, and mathematics. During the first year sub-groups of students were established in these four areas of instruction and during some seminar sessions students met in four groups.

Student opinions are solicited concerning the content they are particularly interested in and the lay person in charge of program assumes major responsibility for scheduling community scientists and engineers to make presentations. Several evenings per year, however, are reserved for student reports on projects and, on the occasion the seminar was visited, one student reported on the experiments undertaken by physicists around the world aimed toward developing a controlled fussion reactor as a source of power. Another student provoked eager discussion in the seminar group with his report on the theory of relativity

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Information for this report was obtained primarily from Mr. William Watters, science instructor, and two students Elizabeth Sprague and Kent Reinker. Mahlon Povenmire, principal and Arthur Knapp, curriculum supervisor were also helpful in providing background information.

as he was able to understand it out of his personal reading program on this topic.

While projects are encouraged, they are not mandatory and some students find it difficult to get sponsors to help them with this part of the program. Students interviewed reported that the Monday evening sessions constituted their major time commitment. It was their opinion that many students spent not more than one hour per week, outside of the class meeting time, on the seminar.

No credit, quizzes, or examinations are built into the course and, in general, students appear to be quite satisfied with the program as it has developed.

Admittance of Students

Approximately 30 students per year are enrolled in this program. The class contains sophomores, juniors, and seniors and, in their experience, it is wise to involve students on a three-year basis.

Final decision on admittance rests with a "Berg Committee" consisting of five teachers and the school principal. Data considered in admitting students consists of scores earned in the Talent Science Search Test, administered by Berg personnel, past academic records (B or better required and most students would have earned many more A's than B's), and documentation of mental capacity capable of doing outstanding work. In general, seminar members possess I.Q.'s of 125 or higher.

The school has maintained contact with Mr. Shapiro of the Berg Foundation and he is involved in administering the screening tests. He is also invited to the end-of-year banquets sponsored by commercial firms for seminar students and staff.

Staff

The program is staffed primarily by community scientists and engineers willing to contribute time to the program. It appears that the lay program director spends several hours per week in his assignment. A member of the school's science staff attends all meetings but plays a relatively minor role in working with the class or in arranging programs. The curriculum director of the school system has maintained a strong interest in the program and has continued to assume responsibility for much of the correspondence associated with the program and in making arrangements for special events such as the end-of-year banquet.

The city of Lakewood contains many scientists and engineers and apparently it has not been difficult to obtain speakers; it has been more difficult to obtain sponsors for individual student projects. It was reported however, that, up to this point, involvement of physicians in the program had been somewhat less than that of scientists and engineers generally.

Value in the School Program

Students perceive the program to be one which does much to broaden their science background. They appreciate the opportunity they are given to hear scientists and engineer in a manner not readily available to most science students.

Students and others associated with the project underlined the value inherent in students making personal contact with outstanding scientists. While these contacts through lecture and subsequent discussion are good, the closer contacts which sometimes develop through project work over a period of two or more years, are regarded as particularly valuable. Such contacts may develop into vocational choices as was illustrated by one student who had done a skin grafting experiment under the supervision of a physician. It was felt that this project had been instrumental in shaping her vocational choice in the field of medicine and/or research on the Ohio State University campus where she is enrolled as a student and is continuing her experimentation. Students stressed the value which they found in preparing for a seminar lecture which they might be assigned to give. Several hours are spent in preparing the lecture and this must be preceded, of course, by several hours of background reading.

History

For many years the Lakewood Public Schools have been giving serious attention to promising curriculum developments. Therefore, it was "natural" for the school administration to be aware of seminar programs as they were being developed throughout the country and this included awareness of the developing Berg Foundation program. When the school administration discussed the matter in detail with Mr. Shapiro and decided that it was a promising idea, it was, in view of the long established tradition of good support for education, relatively easy to obtain the lay participation necessary to make the Berg science program successful.

While the program has had outstanding success, it appears that there are some unresolved problems worthy of further study. One problem concerns the manner in which project work might be made more easily available to students. Also there continues to be some unresolved questions about which assignments might be done better by school personnel than by lay participants.

Other Facts of Interest

Senior students interviewed reported that they had, as sophomores, found it difficult to follow the presentations made by lay lecturers. From their present perspective, however, they feel that they have received a good "payoff" from earlier involvement and think that it was the right thing for them to be "stretched" at that time. Students reported that it was hard to find time to do project work. When asked why the seminar had been added to their program one student said—"Russia".

LAKEWOOD WORLD HISTORY SEMINAR

General Overview

The World History Seminar in this school enrolls approximately twenty seniors in a class which is elective with the instructor's permission and which meets weekly after the regular school day.

Content for the seminar is selected from the field of World Literature in terms of its potential value in helping students acquire an understanding of historical conditions and trends. The course emphasizes discussions based on assigned readings.

The seminar was established in 1957.

Program

The basic study topic of the 1960-61 World History Seminar was described as "the development of political thought through the ages of history" and it was studied primarily through extensive use of basic readings. The change, sweep, and recurring themes of history are studied through the use of works such as Herodotus' *The Histories,* Plato's *The Republic,* Machiavelli's *The Prince,* Marx's *The Communist Manifesto,* Huxley's *Brave New World* and Orwell's *Animal Farm.* Many of the books are used in paper back editions and students normally invest 7-10 dollars in acquiring their personal library for this course. The topic varies each year.

Student interest in understanding Asian history and literature was high in the 1960-61 school year, consequently time was given to developing understanding of historical implications as they could be drawn from the book *A Treasury of Asian Literature* edited by Yohannan.

Students indicate that they spend two-three hours per week in outside reading and approximately one and one-half hours per week in the after school seminar discussions. At times the instructor may lecture to provide better background for student discussion of an idea or he may serve as discussion leader if this appears to be necessary. However, many discussions have been conducted with the teacher playing a very inactive part and students have brought in from their readings, ideas

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Data for this report were obtained from Mr. Richard Beyer, instructor of the course, and two students, Merry Usher and Lynette Janes.

which were discussed in excellent fashion by students with very little help from the instructor.

In addition to the readings and discussions special events of historical significance are used. For example the seminar students and their guests attended the theater performance of the play "JB" but the Biblical significance of this play was studied prior to watching the performance and a follow-up discussion extended ideas still further. The class normally schedules at least one visit, and often two, to the Cleveland Art Gallery to study some historical aspects of art. Art Gallery trips often focus on the Egyptian, Roman, and Classical collections.

Through an analysis of the ethical and historical significance of major pieces of writing the seminar develops into more than a historical study. It becomes, in considerable degree, a general humanities course.

Admittance [illegible]udents

Twelfth grade students who have completed one year of World History are eligible to join the group with the instructor's permission. The instructor interviews students interested in the course and if their expressed interest is substantiated and if they have a general scholastic average of B or better they are deemed eligible. Under certain circumstances promising students with a few "C's" on their grade card are admitted. Final decision on admittance of students rests with the classroom instructor. In general the group is outstanding in ability and in 1960-61 only five of twenty students were below 125 I.Q.

Approximately seventy-five students have been involved in the seminar since it was started in 1957.

Schedule

The class meets weekly on Monday after school. Meetings are scheduled for 3:45 p.m. and continue "until finished" with the dismissal time about 5:15. Although no grade or credit is given students who have been admitted are presumed to have sufficient interest to guarantee their attendance unless extenuating circumstances arise. Students who have three unexcused absences are requested to withdraw from the seminar.

Staff

The seminar is directed by an able teacher with a Master's degree in history who volunteered to take over this assignment during a recent staff change. Some adjustment in teaching load is made since teaching the seminar is considered equivalent to sponsoring an activity and one sponsorship is considered to be a part of the normal load of all members of the teaching staff of the Lakewood School System. During a typical year four other members of the teaching staff will be used as resource persons to deliver lectures or lead discussions on their field of specializations such as art or literature at times when such discussions can enrich the seminar program.

Value in the School Program

The seminar appears to satisfy a desire on the part of students to integrate, more effectively, their knowledge of literature, history, and philosophy. Students grow in their ability to read historical novels with greater understanding and appreciation. They are helped to derive sound historical conclusions in terms of the large ideas which have motivated men and countries in past times.

Students are given a chance to go beyond the material normally included in history courses. They do outside reading of 100-200 pages per week and this often in books judged to be too advanced for a typical class.

Seminar students are able to develop deeper understanding about the unique importance of major historical characters. One student indicated that her interest in Aristotle has been greatly renewed in the seminar and she had pursued it more fully than would have been possible in regular classes.

Students welcome the opportunity to exchange ideas "with other persons of similar inclination." Students appreciated the chance to occasionally "get off the subject" and not be brought back abruptly by the teacher.

Several students indicated that they thought the approach which emphasizes individualized reading and thinking would be helpful to them during their college work.

The instructor observed that one of the major values in the course applicable to other parts of the school program was associated with letting students seek out their own answers. He observed that in normal classroom procedures it is often hard for the teacher "to wait around until the student finds the answer"

History

The World History Seminar in the Lakewood Public School began in 1957. It was largely the "brain child" of a history teacher at that time and the idea was well received by students. The program has been maintained through the regular school year and it has also been offered on a somewhat enlarged basis during the 1958 summer program when students could take the course for regular credit. There is no reason to doubt that the seminar is well established in the school curriculum.

LIMA BROAD FIELDS SEMINAR

General Overview

The seminar program in this school enrolls most of the upper ten per cent of the student body. The program is elective and its schedule is superimposed over student's regular schedules. Seminar classes meet six hours per year for sophomores, twelve hours for juniors, eighteen hours for seniors.

Content for the small discussion group meetings (maximum of fifteen students) is determined largely by student interests. Individual long-term projects or research papers are an important part of the program. Content is not limited to any single field of knowledge and the program is described by terms such as "broad-field" or "open-ended."

The program was started in 1957 and appears to be an important and successful part of the course of study available to the academically gifted students in the school.

Program

The seminar program in the Lima Senior High School can best be characterized as "open-ended". The director and superintendent describe it as a comprehensive seminar and they speak enthusiastically of the opportunity it provides students to integrate what they have learned prior to this time. The students who were interviewed concur in the judgment that almost any kind of idea which is important to them can be discussed or studied during their seminar work. All persons who were interviewed agreed that the topics or ideas considered in small group discussions were determined, to a very large extent, by students as they reviewed possible content with the director. Consequently, the term teacher-pupil planning is particularly appropriate in describing this seminar. Student time in the seminar program is used in a wide variety of ways including (a) background research reading for discussion purposes, (b) group discussion, (c) preparation of written reports, (d) individual research projects, (e) conferences with instructors.

Information concerning the Lima program was provided by Miss Margaret Rimer, director of the seminar program, Mr. Harry Martin, superintendent of the Lima Public Schools, and the following students: Miss Sherrie Johnson and Paul Weidig, senior students currently enrolled for the second year in the seminar class, and Mark Sinders an eleventh grade student in his second year of the seminar program.

Students and seminar director alike agreed that students spend more time on individual research projects than on any other single assignment. The director suggested that some students would spend less than one hour in conference with the director during the year while other students would spend several hours. Six hours per year are spent in group discussion with the sophomores enrolled in the seminars; juniors spend twelve hours and seniors spend eighteen hours a year in this activity. The students indicated that the amount of background research reading which they do in regard to the areas of discussion in the group meetings varies widely. Some students might read two or three books on the topic between seminar meetings while other students do very little reading but come and gain what they can from the discussion of others. One student specifically mentioned that some students are slow to enter into discussion and he suggested that a criterion of "willingness to participate in discussion" be used in selecting students for the seminar program.

The range of topics studied by students for their individual research projects covers the full range of what one would expect from a large number of very able students. The "projects" which were mentioned as typical include the following: two girls were developing a motion picture and sound tape on the topic "How to Study"—a girl interested in the field of medicine had attempted to make a skin graft on a white rat—another girl, particularly interested in art, was painting an oil portrait of her mother—a boy interested in science had involved the help of his physics teacher in building an echo chamber. Still another boy interested in the field of science and mathematics had prepared as his project during the junior year a paper on vector analysis which he entered in the district and state science fair competitions, and in both cases he earned the highest possible rating. As his senior project he is continuing this study at a deeper level now possible because of his having learned at least the beginning elements of calculus since he worked on the project last year—a boy particularly interested in music had undertaken, as his project, to compose a flute solo—a student interested in economics had undertaken to do a serious research paper on the variety and nature of negotiable instruments—a junior girl was studying the development of bacteria in apple cider—a biology student had undertaken to verify some of Mendel's Laws of Heredity through the breeding of white mice—still other titles which suggest kinds of projects undertaken are—solar eclipses, psychology of selling, meteorology, developing a new number system, study of Braille.

Admittance of Students

Approximately ten per cent of the students in the Lima Senior High School are involved in the seminar program. I.Q. scores as determined by group tests in past years are used and it is generally thought that 125 should be the cutting score. However, students in the range of 115-125 who have had an excellent achievement record are also counseled to enroll in the seminar program. The workshop director also gives weight to objective test results such as those obtained from the SAT and CEEB tests. Teacher judgment concerning whether or not a student is likely to succeed in the seminar program is also used.

There is a feeling on the part of some persons associated with the Lima Public School program that a total of 120 students may be somewhat excessive in view of the limited personnel available to work with this number. However, it is the firm belief of the central administration that much good can be obtained by keeping the opportunity available to the upper ten per cent rather than to narrow it down to the upper two or three per cent which would, of course, result in a smaller, more easily handled group.

Schedule

The seminar meets six hours per year for sophomores, twelve for juniors, and eighteen hours per year for seniors. Students meet during the regular school day with the meeting time moving throughout the schedule so that the same class period is not hit too often. Students are to be excused from regular classes any time except on a test day. Since more than one seminar group meets on a given day, a student who might normally be in one group (A) is permitted to meet in another seminar group (B) on the day when he might have a conflict with the test in a regular class at the time when his regular seminar group would meet. The seminar groups meet in academic classrooms.

The Lima program has the interesting feature of giving students a chance to try the program to see if they are able to handle it without undue hardship on other parts of their school work. On this basis some students after trying it for some time, decide to withdraw to give greater time to their regular course work. In a few cases students withdraw because of a lack of interest in the seminar program.

Staff

The seminar is staffed primarily by a single person who has the title of director. This person also has an assignment as "college counselor" and teaches two psychology classes. The seminar director has had professional training substantially beyond the master's level.

In addition to the workshop director many students in the seminar program use resource persons available in the city area. The large industries have provided persons to come and talk to seminar groups that want to hear presentations on certain topics. The city art director, engineers, physicians, and many other people have been glad to counsel with students about their individual projects.

While the Lima program is ably staffed, there is a feeling in the system that one of the potential problems in developing such a seminar is that of securing persons of wide background and training who are interested in moving such a program to achieve all that is possible in it.

Value in School Program

The prime reason for adding a seminar to the high school program was to provide a uniquely challenging opportunity for able students. It was believed that many of these students were not being challenged adequately in the regular classrooms. They were able to read the single text and earn an A with less effort than that necessary to develop good work habits. They became satisfied with just getting by and it was felt that the smaller homogeneous group would provide a natural situation in which children would be stimulated to work at a higher level than many of them had been doing. In addition to this reason it was felt that the "openness" of the seminar would broaden as well as deepen the interest of young people. The student interested only in science might find himself caught up in some very challenging ideas in the field of politics, social problems, or religion in discussions which often tend to go these directions.

It is believed that the seminars have done much to motivate students toward a higher level of scholarship in the Lima Senior High School. The extra effort which the top ten per cent have put into their studies on this voluntary basis has "rubbed off" on many more students. It is felt that the seminar program has provided students enrolled in it a much fuller understanding of self and the responsibility each individual has to develop and use his talents to the fullest. The school administration feels that the seminar program has been directly responsible for graduating classes having bought for the school library four sets of the 100 volumes recommended by Ohio State University as good background reading for college work.

Students are confident that seminars have done much to develop the traits of broadmindedness and tolerance. Many students, prior to seminar discussions, were judged to be quite narrow and prejudiced in regard to controversial issues in politics and religion but students feel that this has been reduced greatly. Students like, very much, the opportunity for extended discussion of ideas. One student commented particularly on the value which he thought was associated with the idea that there are "no wrong answers in a seminar" in the sense that the teacher cites an authority or a line in the book which thereby shuts off a discussion.

A student who was interviewed also observed that many of the regular classes were too preoccupied with isolated factual material and he thought that every student ought to have a chance to be in a small discussion group such as that provided by the seminar.

The seminar has "fed-back" into other parts of the program in that it is likely to upgrade the reading interests of these persons not only in regard to their seminar topic but in other regular classes. It is felt that the students can learn much from small group discussion which will serve them well in other classes where discussion is an important part of the classroom procedure. It is also felt by some of the persons in the Lima system that the interrelatedness of knowledge which becomes apparent to students in a seminar might carry over into their thinking in the classroom and it is also possible that some teachers will be willing to let students following promising "sidestreets" as they open up along the main avenue of study. Some of the Lima students felt that the openness of a teacher to entertain a new or contradictory idea in the seminar group was something that they would like to see in their other fields. This need was cited particularly for the field of mathematics where new ideas, which some teachers are reluctant to accept, are developing.

History

The seminar program in the Lima, Ohio Senior High School began in 1957 with an initial group of eighteen carefully selected seniors. The following year the program was extended down to include students from the junior class and fifty students were involved in the program. In 1959 the program was extended still further down into the sophomore class and a total of 120 students from grades 10, 11 and 12 were enrolled. Currently, 1960, the enrollment is also 120 students from grades 10-12. Thus since the program began in 1957 approximately 300 students have been in the program for at least one year and many students have had a two-year involvement.

The original impetus for the program came from the administrative council. This council which consisted of the superintendent, other members of the central office staff, and all school principals agreed that the very able academic students needed greater intellectual challenge. The high school principal, at that time, played a very important role in the devolpment of the seminar program. He not only supported the idea from an over-all organizational standpoint and sold it to the high school staff but he actually "rolled up his sleeves" and served as seminar director of the first year of the program.

Other Facts of Interest

No regular credit is given for this seminar work. No formal grades are given although the director as she evaluates projects or papers which are turned in does, of course, make evaluative judgments concerning what was done particularly well or not so well.

The main distinguishing features of the Lima program are the small groups (maximum of 15) of high ability students who are given (1) a chance for much free open-ended discussions and (2) the opportunity to develop a project in depth on a topic of their own choosing.

There is some feeling that the Lima program may have the problem of lack of continuity associated with infrequent meetings. This is felt to be a problem particularly for the sophomores who meet only six times in small groups. The seminar director has organized the program for sophomores in such a fashion that material is presented which deals with (1) seminar organization, (2) study skills (these are emphasized, too, at a higher level in subsequent years), (3) the role of the librarian in research, and (4) what is involved in achieving the most of one's potential, for the first four meetings. Consequently sophomores who are enrolled in the seminar believe they are "getting ready" to do good seminar work in their final two years.

MARION SCIENCE SEMINAR

General Overview

The seminar program in the Marion public schools follows closely the suggested outline for science seminars as developed by the Joe Berg Foundation. The program was begun in the fall of 1960 and enrolls somewhat less than 2% of the senior high school population. The seminar meets on Thursday night 7-9:30 p.m.

Content for the seminar meetings is divided rather evenly among the fields of physics, chemistry, natural science, and mathematics. Lectures occupy a very prominent place in the program.

While the seminar is less than one year old, students, community, and school staff regard it as a promising and important part of the program available to gifted students.

Program

The seminar program, as it operated during its first year in the Marion Public Schools, was essentially a series of discrete lectures on various aspects of science and mathematics. Following the suggestions made available to the Marion Public Schools by the Joe Berg Foundation of Chicago, Illinois, four major program planning committees were established. These committees, containing from 4-6 persons each, had as chairman a member of the high school teaching faculty. All members of the committee except the chairman were lay professional persons who lived in the school district. Physicians and engineers constituted the two major groups from which community volunteers were secured.

Each committee was assigned general responsibility for planning six or seven programs for the year. Using the suggestions made available from the national foundation they surveyed resource persons available within the community or from other scientific or professional groups who might be willing to provide lecturers. The topics studied through lecture, reading and limited discussion included the following as illustrative of the four major areas of study: the chemistry of the human body,

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Information concerning this program was obtained from Mr. Cecil Gabler, Assistant Superintendent, Dr. John Imbody, Co-Director of the Seminar and the following students: Ronald Tarvin, John Hix, and Deana Baker.

chemistry and physics, electronics—theory of semi-conductor devices, quantum theory, cancer, conservation, set theory, and astronomy. In some cases topics such as these were identified as important and a search was made for a speaker who could present the material on a certain evening. In other cases an outstanding scientist was identified and the topic on which he was known to be expert was then placed into the program for the year with the assurance that he would make an excellent presentation in his field of specialization.

It is understood that the speaker will send, at least one week in advance, a paper in which he advances some of the ideas to be covered in his lecture. In addition to this paper most speakers submitted a list of pertinent readings which might be reviewed prior to, or following, the lecture.

Students who were interviewed indicated that they spent less time in reading than they did in attending lectures. Approximately two and one-half hours per week was spent in lecture and discussion following the presentation. Students may spend as little as one hour per week in background reading.

No credit is granted for the course and no quizzes or examinations are given. Students assume that they are to work through a term project related to some aspect of science and it is hoped that the project might be worked through, at least in part, in close collaboration with a scientist or engineer in the community. This has occurred in some cases but in other instances the students have simply continued to develop outstanding science projects for the traditional district and state science fairs.

While the content of the program has been of great interest to most students enrolled in it teachers and administrators have some reservations about the lack of continuity and interrelatedness between the scheduled lectures. It is suggested that, in the years ahead, it may be possible to develop themes around which a series of meetings could be based or to do other things to develop a "master-plan" which might be useful in such a course.

Admittance of Students

Twenty-one students out of a total enrollment of 1,261 were selected for the seminar. The class contains 11 sophomores, 5 juniors, and 5 seniors. (6 girls and 15 boys). Students currently enrolled in the seminar have, with few exceptions, an I.Q. of 125 or higher and they have done well on tests such as the ACT, CEEB, SAT, and the Science Talent Search Test administered by a representative from the Berg Foundation. While building a list of students eligible to take the final screening examination, attention was given to past academic records of the students and without exception they were primarily "A" students who were judged by teachers to have exceptional promise for this type of program. The decision on who was admitted and who was excluded was reached cooperatively by a group which included the superintendent, assistant superintendent, high school principal and assistant principal, seminar director, and the boys and girls guidance counselors on the high school staff.

There is some disagreement as to whether the optimum number of students is enrolled in this program. While one student expressed the feeling that to open it up to many students would reduce the honor of being in the program, another student observed that doubling the number would still make it a very "exclusive group". One student observed that some students who were good enough to be in the group chose not to be in it because of tight schedules and commitments in other directions.

Schedule

The seminar meets every Thursday evening 7-9:30 p.m. The meeting that was observed consisted of a full two-hour lecture followed by approximately 20 minutes of discussion. The availability of lecturers on Thursday evening apparently was an important factor in selecting that time. There appears to be no major dissatisfaction with the present scheduling arrangement and students have had an exceptionally good attendance record.

Staff

The director of the seminar program is a high school teacher but the assistant director with whom he consults about general program matters is an engineer associated with a Marion construction company. The seminar is "taught" primarily through the very heavy involvement of resource persons who are invited to make one evening presentations. During the first year the resource persons have been, with extremely few exceptions, people in the following professions: mathematicians, scientists, engineers, physicians, or professors. Through informal conversations with persons who had assumed responsibility for lecturing to the seminar group it was evident that interest in this endeavor was unusually high. Some persons reported that they had worked many weeks to prepare for their particular presentation and they were looking forward to sharing the results of their research and thinking with these high-ability students. When asked whether they thought they could maintain this interest over a period of years they felt certain that they could if not asked to take more than one assignment per year.

Value in School Program

The seminar appears to be accomplishing its prime purpose of providing a high level challenge to students who are outstanding in the fields of science and mathematics. In the eyes of the school administration it is a logical extension of the program for "rapid learners" which they have had in the junior high school grades for several years.

All groups associated with the project feel that it has upgraded the importance of good scholarship among high school students. Students and school administrators emphasized the value of the personal contacts some of these students were able to make with scientists and other professional people in the community. One of the students indicated that a main value of the program, in his judgment, was to make him want "to be as successful as some of the speakers he was privileged to hear." As students listen to these scientists and as students get opportunities to develop projects that involve them working closely with these persons they are able to broaden greatly the career possibilities from which they might choose. Thus the seminar serves nicely as a career orientation course for students who are in it.

The seminar program has done much to marshal community forces to support the schools. As executive and other professional persons become involved in planning a program for gifted children or involved even more deeply in instructing them these community leaders develop a level of concern not found generally among lay persons. One of the students interviewed made the point that the community is very interested in what is going on in the seminar and she reported that her parents were certainly proud when she had been selected to be in the program.

Students indicated the course was valuable for them because it went far beyond the content available in regular courses. They were strong in their belief, however, that the seminar did not replace regular courses.

History

Prior to 1957 a workshop on improvement of instructions organized by the Marion Public School administration had stimulated interest in developing a program for rapid learners which was begun at that time. As a result of this successful effort there was receptivity to the idea of doing something additional, in senior high school, for able students in science and mathematics. School administrators after careful survey of the matter with school board and other lay members in the community interested in upgrading instruction, invited a representative of the Joe Berg Foundation to come to Marion and explain that program. The idea was reviewed favorably in the Marion newspapers and supported strongly by scientists, engineers, and other professional persons in the community. On the basis of the encouragement received and the promise of support obtained in the community it was decided to begin the program in the fall of 1960. During the first six months the program has produced gratifying results.

In view of the exceptional level of support obtained from the community it may be well to report the composition of the executive committee of the Joe Berg Science Seminar as follows:

Director	High School Teacher
Assistant Director	Engineer
Member	From Education Committee of Chamber of Commerce
Member	From Manufacturers' Council
Member	From Marion County Academy of Medicine
Member	School Superintendent
Member	Assistant to Superintendent
Member	High School Principal

During this first year the program was structured heavily in terms of advice obtained from the National Foundation but as a result of the first year efforts it is quite likely that the program planning committees and executive committee will gear the program more closely to their own needs in subsequent years. Recently it was reported that some lectures in the humanities will be included in the 1961-62 program.

Other Facts of Interest

Sophomores enrolled in this course sometimes found it rather difficult to follow presentation in the fields of chemistry and physics but in their view they still regarded it as time very well spent and they look forward to the opportunity to participate more effectively in the program during the next two years as they acquire greater background in science and mathematics in their regular high school courses of study. At present the school administration has no reservation about the "mixing" of three grade levels in this high ability group.

Students in general were not at all "bored" with long lectures and some of the students interviewed had strong preferences for lecture presentation over group discussion. They observed that students who wanted to ask questions or to "argue" could stay after class.

OAKWOOD SOCIAL STUDIES SEMINAR

General Overview

The seminar program in "Selected World Problems" for eighth and ninth grade students involves about 5 per cent of the enrollment in these two grades. The class is elective, non-credit and meets once a week after regular school hours.

The program was organized during the 1960-61 school year and is in its early experimental stages. Content is drawn from fields such as history, government, political science and geography. Readings on assigned topics and subsequent discussions were prominent in early meetings of the class but student concerns were honored more heavily during the second semester.

Program

The content of the seminar program is drawn largely from the "humanities". The first unit studied was primarily of a historical nature entitled "Russia in the Twentieth Century". This study which was selected by the teacher and her parent assistant, was felt to be a good first study since it provided many opportunities for presentation of factual information and interesting discussion; both of these things were regarded as important in the minds of the gifted children selected for the seminar class. Following the study on Russia some time was used to study the origin and nature of "Democracy in the United States". This unit was not particularly satisfactory since it tended to repeat ideas which the students had learned in regular history classes.

The second major topic of study was "Red China" and when the writer visited the class an interesting session with a recently naturalized Chinese citizen who escaped from Red China was being enjoyed by the class. Some use has been made of current event filmstrip materials and it was planned to have the controversial movie "OPERATION ABOLITION" viewed and discussed by the class.

Research reading is a major activity of most seminar students and they have developed book reports on serious works such as *Masters of*

Information concerning this program was obtained from Mr. James A. Runkel, Principal, Mrs. Suzanne Day, Instructor, and four students: Ann Lambert, Emily Brower, Loughy Callahan, and Andy White.

Deceit, I Led Three Lives, Democracy in America and similar titles. Students report that they invest two and one-half to three hours per week in outside reading related to the seminar.

While the first topic was selected by the teacher in consultation with other staff persons, subsequent directions of study have been developed cooperatively by the students and teacher.

Admittance of Students

Teachers of English, language, and social studies were asked to identify students who appear quite bright, are consistent high-achievers, are mentally alert, are inquisitive, like to solve problems. While this list was being compiled by teacher nomination the school administration prepared a list of eighth and ninth grade students with I.Q.'s of 130 or over. The list of teacher nominees was compared with that obtained from student records and the two lists were found to be in high agreement. A master list of eligible students was prepared and these were given individual I.Q. tests; first, the Weschler-Bellevue and secondly, a Stanford-Binet if the first test indicated need for subsequent follow-up. Although twenty-two students passed the criteria described above individual consideration suggested that six students, for various reasons, would not be likely to profit greatly from this experience and the final enrollment was 16. The enrollment consisted of eight boys and eight girls with eleven coming from the eighth grade and only five from the ninth.

In the selection process parents were involved heavily. The parents of eligible students were invited to a meeting at which the seminar was discussed. To this meeting came representatives from every child's family and in most cases both father and mother were present. After parents had been informed as to the nature and function of the seminar program students were involved as a group in discussing it further.

Schedule

The class is scheduled to meet one hour a week after regular school hours. The fifteen minutes between the end of the regular school day and the beginning of the class is generally used as a "coke break" with a parent assistant responsible for the refreshments. Because of the after-school meeting time the one hour time limit is honored carefully and students are seldom kept later than 4:30 p.m. The class meets in a large regular classroom which has adequate book-shelving and other features which lend themselves nicely to the development of a good seminar type classroom.

Staff

The original planning for the seminar involved principal, assistant principal, teacher of the seminar and a parent who serves as a teaching assistant. The assistant has been very helpful in working through such matters as the refreshment period referred to earlier, making arrangements for an interesting speaker or visitor which the seminar group might like to meet, arranging for the showing of an interesting movie which might be obtained by special effort, and serving as a sounding board in checking ideas about seminar content as they might be projected by the teacher.

The teacher of the group is a young, dynamic, able teacher whose major preparation has been in the field of French. She has taken considerable work, however, in the fields of English and History and obviously enjoys the opportunity to work with gifted children even though it means extra work. The teacher is in her third year of teaching experience and is starting her master's degree program.

Value in School Program

The seminar was developed to fill, partially, a gap which was felt to exist in the challenge being provided for gifted children in grades 8 and 9. It is believed that the demanding courses in English, mathematics, science, and foreign language in the senior high school program, together with the increasing opportunities for participation in athletics and other extra-curricular activities in the senior high school grades, provide ample challenge at that level. However, the very able students in the upper junior high grades who, it was observed, do not work as hard and they might have responded nicely to the opportunity for extra learning.

It was also believed that eighth and ninth grade students, as able as these, were ready to consider, on an adult level, many abstract ideas concerning world problems. If these ideas could be discussed in a group of able and serious students they would be much better received than occurs in a homogeneous class where a bright child is often reluctant to push an advanced idea because he might be regarded by his peers as an "odd ball".

The administrators thought that the Oakwood High School provided many opportunities for challenging work in fields other than the humanities, consequently, this was still another reason why a social studies seminar should be offered at this time. The availability of a promising instructor in this field was another determining factor.

Children spoke appreciatively of the opportunity they had to study controversial ideas such as Communisim. They enjoyed the informality of the course. They commented on how much they appreciated being able to get another person's viewpoint "in depth" and they liked the variety of answers which came out of the seminar type discussion in contrast to the single answer which was often required in conventional classes.

History

The seminar program in the Oakwood Junior High School was organized during the early part of the 1960-61 school year and has been operating less than one year. It developed naturally from a program begun in 1958 to establish special classes for academically talented high school students. Since 1958 high achievement classes have been organized in English, algebra, plane geometry and these changes have involved some students in all high school grades. Out of this background came a relatively easy decision on the part of administrators, teacher, and interested lay-persons to make available an offering such as a social studies seminar for selected eighth and ninth grade students.

It is proposed to review the success of the seminar during its first year and this review will involve parents and students as well as staff. The writer sensed, however, a considerable degree of satisfaction with the program and would be very surprised to find it curtailed; it is much more likely to expand.

Other Facts of Interest

The frequency of meeting time was felt to be a problem by some persons interviewed. An interesting lecture or discussion cannot be followed up promptly if time prevents a full consideration during the single hour per week currently available. It was also reported that the term "Seminar" was used partly in the hope that the experiment could develop into a true seminar class although it was understood that, at the beginning, it would have more teacher "structure" than is often associated with seminars. As the year progressed students and teacher alike felt that the group discussions proved to be very valuable in that they were purposeful in terms of what students wanted to accomplish and they were not dominated excessively by teacher concerns. Children reported that they found themselves doing much more outside reading than they had previously done and this became apparent even in the way they read newspapers more carefully. They also found themselves much more intrigued in thinking carefully about what other people believe and how these beliefs differ from their own.

PORT CLINTON EUROPEAN HISTORY SEMINAR

General Overview

The seminar program in this school was found to be an Advanced Placement Program course in European History enrolling less than one per cent of the student body. Students are admitted with the permission of the instructor and the class meets daily, 7:30-8:30 a.m.

Content for the course is drawn to a large degree from the Advanced Placement syllabus. Instructor lectures and essay type examinations are used as major instructional techniques.

The program was started in 1960 but it has already become a valuable part of the program for the academically able students and it is likely to expand in the years ahead.

Program

The course identified as a seminar in the Port Clinton schools is essentially the College Board Advanced Placement Program in European History. Administraton, teacher, and students agree that the content is drawn exclusively from that recommended in the outline of the European History course for the years 1450-1939. During this experimental first year of the program the instructor reports that he is following closely the suggested outline and this is being done, partly, to determine how well the students can do on the end-of-year advanced placement examinations. The instructor is somewhat concerned about the tightly structured nature of the course and may want to modify it in future years.

During the first six weeks there was considerable discussion in the class about how to do research and develop a research paper, how to take good notes, how to keep a well-organized notebook, how to prepare to write good essay examinations and similar over-view materials. After this initial period of orientation, however, class time has been devoted almost entirely to instructor lectures and essay type examinations. Occasionally a small amount of class time is used to begin an outside reading or notebook assignment. An essay examination of approximately

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Information in this report was obtained from Mr. Boyd Martin, Principal, Mr. Robert Cullison, teacher and two students—Jane Dallen and Ron Jones.

one hour's length is given every two weeks and end-of-semester essay examinations are two hours long.

In addition to the daily classroom time, students are expected to spend at least one hour a day on outside reading. Most students invest this much time and some go far beyond this amount. A wide range of collateral reading material is available for the course.

Students wrote several short reports on assigned topics and they developed a major research paper on some aspect of the period of European history, the topic of which was chosen out of their background reading. One student, particularly interested in the factors responsible for the rise of Hitler in Germany, planned to develop his research paper on that topic.

Admittance of Students

Less than 1% of the students in the Port Clinton High School are involved in this program. During this first year of the program it was felt that students, to be admitted, should have an I.Q. of 120 or higher, a demonstrated high interest in the field of history, and no grades of lower than B in previous history courses. Using these general criteria, instructor and principal obtained an initial group of seven students. One student, because of time pressure, found it impossible to do the necessary outside reading and withdrew from the course leaving a group of six.

Enrollment for a similar course next year has already reached 14 and, in addition to an advanced course in European history, it is likely that an advanced course in mathematics will be offered next year. Consequently, it appears that next year's program in this school will involve two or three per cent of the student body.

Schedule

The class meets daily, 7:30-8:30 a.m., in the instructor's regular history classroom. This meeting time was chosen because student conflicts could not be avoided in the basic six-period-day schedule of the high school. In addition to regular academic classes scheduled by college-bound students, these students are heavily involved in activities such as publications, debate, and music.

It is felt that some students did not choose to enroll because of before-school class time and next year, within the framework of a seven period day, this course will be offered during regular school hours.

Staff

The course is taught primarily by a single instructor ably prepared in the field of history. The instructor has had two years of graduate work in the field of history, and obviously enjoys working deeply in this field. Throughout the year the instructor will use as resource persons three other members of the high school teaching staff, namely, the art, music and English teachers; these persons will lecture on interesting historical aspects of their fields as they have developed in Europe.

Value in School Program

Students, teacher, and administrators all agreed that the course was designed to challenge the high ability student to work close to the level required of freshman in college. One of the students indicated that it was a course interested in "helping kids who want to get ahead". Since the course is regarded, in large measure, as one which helps students become oriented to college type work, it is heavy in lecture, notetaking, outside reading, and essay examinations. It is assumed that more experiences of this nature will prove to be valuable to students as they undertake college work.

Students say that the essay examinations are particularly worthwhile even though they found them very difficult at the start of the course. They think that greater use of these kinds of examinations in other parts of the school program might prove to be a valuable by-product of this course.

The introduction of this course has helped re-open the question of whether some high school courses should be regarded as more valuable than others in determining a student's standing in his graduating class. In addition to this European history course, algebra II, advanced mathematics, chemistry, physics, and English IV in the college preparatory program earn "5 points" rather than the normal 4 points for an A.

The school administration feels that involving an able instructor in such an accelerated course is valuable also, in that it makes better use of his talents and it encourages other staff members to operate at a higher level with students who can profit from this kind of instruction.

History

The European History course in the Port Clinton High School is in its first year. While the course was originally proposed as a modern problems course, students indicated interest in more systematic coverage of a field such as European History and the instructor also was intrigued with the advanced placement program idea. It may be that a course determined to a greater extent by the instructor might prove to be just as valuable and this possibility is being examined. It is planned to make additional courses of this nature available to Port Clinton students within the next two years.

Other Facts of Interest

Regular high school credit is given for this course and grades are reported at regular six weeks intervals. It is sensed, however, that credit and grades are not particularly important in this course and students would work as well as they do if no high school credit or grade would be given. There is some concern in the system about the fact that the able student interested in this kind of a course may enroll in it even at the cost of overload in his total program. While this was apparently true this year, the move toward a seven period day which will offer this course within the normal school day, should do much to eliminate this criticism.

RAVENNA GREAT BOOKS SEMINAR

General Overview

A "great books" seminar program constitutes one aspect of the work needed to earn a special honors diploma at Ravenna High School. Approximately twenty students per class are involved in the seminar program but normally only about one-third of these complete all of the requirements for the honors diploma.

Program

During four years of senior high school work candidates for the honors diploma are required to participate in at least fifteen "great books seminars". The books are selected by students from a list of 86 titles (in the 1960-61 year) including such works as *Pride and Prejudice* by Austen, *Rise of American Civilization* by Beard, *The Sea Around Us* by Carson, *Canterbury Tales* by Chaucer, *The Deer Slayer* by Cooper, *Microbe Hunters* by DeKruif, *Brothers Karamazov* by Dostoievsky, *Scarlet Letter* by Hawthorne, *Essays of Emerson* and others. Prior to the seminar session during which time a student will participate in a full discussion of the book with other persons who have read it together with the faculty person in charge of the seminar session, the student writes an analysis of the book in terms of certain questions which have been prepared by a staff member. This written commentary is read carefully by the teacher in charge of the seminar session; it is also evaluated for literary quality by a board of review which includes English teachers.

In the seminar discussion the student is asked to discuss in considerable depth some of the major ideas found in the book and, on occasion, to defend his point of view against that of students who have made another interpretation of the work or against the challenge of the teacher's perceptions of the book.

Students report that they spend several hours during a period of one or two weeks in careful reading of a book and in preparing for their seminar session. The oral session is normally one hour long as is the written test.

The materials for this report was obtained from Mr. W. E. Watters, Principal, and the following students: Holly Jones, Mary Noll and Larry McConville.

The seminar sessions may involve only one person discussing the book with a faculty person but normally a small group of 2-5 students will participate in seminar discussions.

Admittance of Students

The general requirements of the honors diploma serve as a natural screening procedure for self-selection of students into the seminar program. Briefly these requirements are: a cumulative point hour of approximately 3. out of a maximum of 4., scoring in the upper third of the preliminary district state scholarship test, placing in the upper half of the students taking the senior scholarship test, writing satisfactory compositions on topics in three departmental fields, evidence of marked growth along some serious line of study, and passing an oral examination before a board of review. The foregoing requirements are such that, in general, the students who are participating in this seminar program are of the same high quality as those found in special programs for gifted students in other Ohio high schools.

Schedule

The seminar sessions are scheduled at the convenience of the teacher and students who choose to participate in the seminar discussion of a particular book. Occasionally, they are held during study hall time but more frequently they are scheduled after school. At times they are arranged for a night meeting in a teacher's home and students indicated pleasure at having been involved in sessions held under these conditions. It was reported that four boys spent a "never to be forgotten" session of six hours with a social studies teacher when they discussed in great detail *The Organization Man.*

Occasionally, books have been reviewed with teachers during the summer vacation months and this also was regarded as a good arrangement.

Staff

Over the years the school has developed a particularly strong staff in the humanities. These teachers have been pleased to serve as examiners for books such as those listed earlier. Some science teachers have become interested in this program and they have agreed to undertake a comparable assignment with certain science titles with which they are thoroughly familiar.

The principal has maintained an active interest in this program since he was instrumental in getting it started and his example has undoubtedly been responsible for maintaining good faculty interest.

Value in the School Program

Students report that book seminars tend to "stretch you beyond where you would normally go". They indicate pleasure at being placed in situations with others who are interested in the challenge of ideas and good books, too.

The school administration believes that such seminars are extremely helpful in developing the kind of background needed for college work. Students have developed a wider acquaintance with good literature and they have improved their ability to understand such works. In the entire process students have become involved in thinking on a higher level than occurred in the humanities area before the honors diploma program was inaugurated.

History and Other Aspects of Interest

The honors diploma program, including the book seminar phase, was first discussed with the faculty during the 1955 school year. After extensive discussion and faculty approval the program was begun with students in January, 1957. The program has been highly selective as is indicated by the fact that only seven of the honors diplomas have been granted in each of the past two years.

One of the persistent problems associated with the program is that of enlarging the number of teachers who are willing to take the responsibility of "seminaring" a book, particularly in fields other than the humanities. It has also been somewhat awkward to get students together at the time most suitable to teachers.

ROCKY RIVER FRENCH SEMINAR

General Overview

The French seminar was established in the fall of 1960 when there was insufficient enrollment for the organization of a French III class. The class involves 3 students and is, admittedly, an interim arrangement thought valuable when foreign language enrollments are not large enough to establish regular advanced classes.

Program

The seminar is directed toward the development of reading and speaking proficiency in French. Some attention is given to French grammar. The content is drawn largely from contemporary sources such as French newspapers, magazines, and a weekly current events magazine published in French. The content is pre-determined by the teacher although she is sensitive to the interests of students and is skillful in maintaining the interest of those desiring to improve their French.

In addition to this seminar group, the school offers special enrichment classes which meet before school two days a week. These are designed primarily for students in their second year study of French who are interested in review and further work pointed toward doing well on college board examinations. All second year French students are invited to join the enrichment classes and about 10% of the eligible students participate in this program.

Roughly one hour per week is spent in the seminar discussing readings and other aspects of French deemed appropriate by the instructor and students. Students who were interviewed reported that they spent time varying from one to four hours per week in outside reading pertinent to the seminar.

The seminar earns no credit and no grades or quizzes or examinations are given.

Information concerning the French seminar in the Rocky River Public Schools was provided by Mrs. Sara Walther, French teacher and by Janice VanderWiel and Sally Seelbach.

Admittance of Students

Any student that had completed two years of French who was interested in the seminar was eligible to attend. While the seminar was organized with 8 students several withdrew and only a small group of 3 finished the year's program. The remaining nucleus consisted of students who had transferred *into* the Rocky River Public School System from other schools.

Schedule

The seminar meets on Tuesdays, after school, from 3:30-4:30 p.m. in a regular foreign language classroom and it is staffed by a well-trained and experienced French teacher.

Value in the School Program

Students and teachers agreed that the seminar provides a unique opportunity for serious French students to acquire the ability to see French culture through "the eyes of Frenchmen". Only students who are highly interested will give up after-school time to participate in a group such as this and, consequently, the discussion tends to be more animated and vital than occurs in "regular class time." Students like the flexibility which permits them to get off into interesting side-streets in their discussion and they welcome the opportunity for heavy participation in discussion. It was reported, however, that the group was too small and that a group of about 10 would constitute the ideal number.

The instructor spoke enthusiastically about the enrichment opportunities available in this type of seminar and feels strongly about continuing it in the future. It is anticipated that the seminar will become a regular offering available to students interested in it.

Other Aspects of Interest

The organization of a seminar group such as this appears to be a very logical move in a school system that has a strong French teacher sensitive to the needs of students. Evidence of teacher interest is also provided in the active French club organized in the school, involving 53 persons and meeting at least once a month. The school is also heavily involved in correspondence with French "pen pals" and more than 70 students have maintained active contact with overseas students during the 1960-61 school year.

ROCKY RIVER LITERATURE SEMINAR

General Overview

The ninth grade literature seminar involves ten highly selected students. The group meets monthly on Monday from 3:30-5:00 p.m. immediately after school.

The course is designed to provide a depth involvement in studying a few selected books, and several members of the English faculty share the staffing assignment.

The course is experimental and has been offered less than one semester.

Program

The program during its first four months of operation consisted almost entirely of a depth study of three assigned books. A list of provocative questions on each book was prepared by a teacher and distributed to students as a suggestive guide to be used in reading the books more critically. After the books had been read carefully, (students indicated that they spent approximately four hours per week in this phase of the work) the book was discussed in seminar style in one of the after school meetings.

The books assigned were *The Human Comedy* by Saroyan, *The Green Years* by Cronin, and *The Thread That Runs So True* by Stuart. Students were required to write one major paper in which they might choose, as one student did, to analyze various views of the world as expressed in literature or to produce a more detailed elaboration of the philosophy of life found in one of the assigned books.

"Free-wheeling" discussions which involve students more fully than occurs in most English classes are, according to the students, an important part of the seminar. Students report that they have become involved in reading more widely and they have thought more carefully about the message which the author is trying to bring to his readers.

The content for the program was determined by a group of three English teachers who took responsibility for the books indicated above.

Information describing this seminar was obtained from Mr. E. C. Burford, Head of the English Department and from the following students: Debbie Dye, Martha Lesher, Keith Lerch and Jim Quarles.

Thus, each teacher prepared the outline of questions to guide the students' reading and took responsibility for leading the seminar discussion on one book only; thus the actual teaching of the seminar was shared three ways.

Admittance of Students

The three ninth-grade English teachers nominated students who they thought might profit from this seminar. In general they were students who had made A's in their English courses and most of them had I.Q.'s in the range of 130 or higher. Student interest, of course, was considered and all ten students involved in this first seminar group maintained good interest and attendance records.

Schedule

The class met one afternoon per month immediately after school from 3:30-5:00 p.m. since it was felt that this number of meetings would not conflict seriously with other after school responsibilities, even in the field of athletics. The instructor reported that student interest in discussion is such that students would gladly stay longer but he has arbitrarily limited the seminar meeting time to one and one-half hours. Students reported that they spend approximately four hours per week in reading for the seminar and two to five hours in preparing a book report. All students agreed that they spent more time in reading than in all other phases of seminar work.

Staff

The teaching assignment is shared among several English teachers with each one taking responsibility for one of the selected works. The head of the English department has, however, assumed a "coordinating role" and has attended all meetings and has invested more time in the program than any other person.

Value in the School Program

The students involved in the program emphasized the value of the extra incentive—the extra work which is associated with this course. As a result of their involvement they are spending more time in reading and are thinking more deeply about what they read. The instructor reports that even the honors program which is in operation may not provide sufficient challenge for very able students and consequently the seminar is providing some of the needed additional challenge. It is also observed that "free" situations such as this can do much to encourage reading. Reading should sometimes be done "for fun" and not because it is an assigned part of a course pointed toward a grade or credit. The consideration of basic and provocative ideas as expressed in literature is encouraged through seminar type discussions.

Students indicate that the discussions which they have in small groups of peers who are also interested in "pushing" ideas as deeply as they can are much more interesting than the discussions they have in their regular classes. They report that they have been forced to think more deeply about literature than they ever have before.

The seminar is serving an additional function of providing a testing ground for the English teachers to determine the kinds of literature which are most interesting to very able nine grade students. This study is related to a bigger question of how English instruction might be accelerated most effectively with ninth and tenth grade students.

History

For some time the Rocky River High School has had a three track program for students in English. These have been named the honors, academic, and basic courses and the arrangement has worked quite well. However, it was believed that the very able students might go even beyond the content prescribed for the program and on a trial basis in the spring of 1961 the experiment described in this report was inaugurated. While final judgments as to its effectiveness in the program cannot be made at this time, it appears quite likely that the program is promising enough to be continued for the next few years. Students involved in it certainly hoped that this would be the case.

SHAKER HEIGHTS GREEK DRAMA SEMINAR

General Overview

During 1960-61, high school seminar groups were established in Greek drama and Russian history. The groups were comprised of small numbers of highly interested students meeting on after school time. The classes were taught by teachers eager to take on such assignments as overload to their regular teaching schedule.

Since the senior high school has a rather extensive advanced placement program the nature and purpose of seminar courses in the total program of instruction has not yet been clearly defined.

Program

The Greek drama seminar developed out of an advanced placement tenth grade English class. In this class considerable attention had been directed at Greek theater and literature and this interest was maintained and nurtured during the next two years as the instructor worked with the same group of students. Consequently, during their senior year it was easy for him to obtain a group of fifteen students interested in the deeper study of Greek drama which they might be able to do on their own out-of-school time.

The group studied, in considerable detail, writings of authors such as Sophocles, Euripides and others. Eight Greek tragedies and one comedy were studied during the twelve weeks seminar period. Teacher-lectures and a careful analysis of several plays were dominant activities in the seminar work.

Students spent two to three hours per week in outside reading for this course in addition to the time spent in class.

The Greek drama seminar had developed, in part, because of the interest of the instructor in teaching such a course in greater depth than could be justified in the regular English classes. Similarly, the Russian history seminar was taught by a social studies teacher eager to do such a study with highly interested youngsters who found it impossible to schedule such a class in their regular course of study.

The material in this report was provided by Mr. Russell H. Rupp, Principal, and the following members of the Shaker Heights High School teaching staff: Mr. Burton Randall, Mr. Kenyon Cramer, Mr. James Briston, Mr. Albert Senft, Mr. George Starr, Mr. Richard Klyver.

The school principal and teachers indicated that the seminar approach is often used in their regular advanced placement courses. Advanced placement courses in mathematics have been offered in the high school program since 1954. Advanced English and history have been offered since 1957 and the present offerings are as follows: tenth grade—English, mathematics, biology; eleventh grade—English, mathematics, biology, American history; twelfth grade—English, mathematics, biology, physics, American history. The advanced placement program, particularly in the areas of history and English, emphasizes research reading. The preparation of comprehensive research papers is also prominent in these courses. It was reported that the discussion in these classes was deeper and more spontaneous and dealt less with a review of text material and more with an analysis of fundamental ideas.

Admittance of Students

The Greek seminar group consisted of seniors who had indicated high interest in joining the group. Approximately half of them were enrolled in advanced placement courses and all had earned either A's or B's in their previous English work. Written parent permission was required.

It is reported that students in advanced placement courses generally have I.Q.'s of 125 or higher and they have scored at least at the eightieth percentile in a Cooperative test in the area in which they are requesting to take advanced work. Their past academic records similarly are at the B or higher level and final judgment as to whether they are eligible for the advanced classes rests with the teacher and the counselors who have access to much objective test data on each student. Consent of parents is required.

The tradition of taking advanced placement work, if one is eligible to do so, has been firmly established in the Shaker Heights High School system. Between ten and fifteen per cent of the student body is enrolled in such courses but very few students take more than one advanced placement course at any one time. Many students have developed the habit of staying after school to secure teacher help on their school work and some club groups have been organized which discuss important issues in seminar fashion. These groups include a junior council on world affairs which meets monthly; a pre-med club, natural history club, and youth council on human relations meet semi-monthly.

Schedule

The Greek drama seminar meets on Tuesdays and Thursdays after school, 3:40-4:40 p.m. The Russian history seminar meets from 7:20-8:20 a.m. on one day per week and the second meeting is after school 3:40-

4:40 p.m. While the tradition of club meetings and working with teachers after school has been established it is likely that the scheduling time poses a problem with some students, particularly those who are involved in athletics or in after school work programs.

Staff

The two seminars are staffed by dedicated teachers of English and history. It is their firm belief that they have acquired in their professional development an enthusiasm for learning about their particular field of specialization which they can transmit to students who are developing their interests in these fields too. Little or no effort is made to involve other persons in staffing the seminars.

Value in the School Program

For several years able students have been provided with opportunities to do advanced and challenging work in fields such as mathematics, science and English. These opportunities are available as early as ninth grade and consequently students become involved in working in these fields, feel committed to them, and subsequently find it difficult to begin advanced work in fields such as history and dramatics. The Greek drama and Russian history seminars are deemed to be valuable, therefore, because they open up other fields of learning for able students.

These seminars as well as the advanced placement courses are judged to be very valuable to teachers who are required to "keep up to date". It is felt that such courses have done much to upgrade the quality of teaching as well as learning in the Shaker Heights system.

It is also reported that many of the colleges to which the graduates apply expect that serious high school students will have undertaken advanced project or seminar type work while they were in high school.

History

As a school system noted for a strong scholastic progam it was natural that the advanced placement program was adopted early in its development on the national scene since the development of advanced placement programs and seminars appears to be associated with the concern for "quality education" found in many strong suburban school systems.

The high quality teaching staff well supported by the school administration in its efforts to do creative teaching has also been instrumental in the successful development of this program.

TALAWANDA (OXFORD) WORLD LITERATURE SEMINAR

General Overview

The Seminar in World Literature in this school enrolls approximately two percent of the senior high school student body. The course is an elective possibility for eleventh and twelfth grade students which is scheduled in the regular school day.

Content for the Seminar is drawn from the fields of philosophy, logic, and ethics as well as World Literature. First semester content is determined largely by the instructor but much independent reading and development of individualized term papers and projects is built into the course, particularly in the second semester.

The program has enrolled 15 students per year during its three years of operation and apparently has a secure place in the school's curriculum.

Program

The materials studied by this Seminar class consists primarily of advanced work in World Literature. The instructor has reasoned, however, that academically gifted students can acquire a background of man's philosophic concerns through the ages which will prove to be very helpful in understanding man's writing through the ages. Consequently, the early part of the course has built into it many lectures and depth discussions dealing with people or ideas such as Aristotle, Plato, Aristophanes, aethetics, scholasticism, metaphysics, mysticism, stoicism, and a rather thorough study of the early Greek theatre. Students also acquire background understanding by reading widely in books such as Durant, *Study of History*; Reinhold, *Classics of Greece and Rome*; Durant, *Story of Philosophy*; *Mythology* by Edith Hamilton, and similar works. During the first semester students are also expected to read, in the paperback edition, *Seven Famous Greek Plays*, *Cyrano de Bergerac*, *Faust*, *Dialogues of Plato* as well as selected readings from the basic text, *Adventures in World Literature* by Inglis and Stewart.

Information concerning this Seminar program provided by Mr. Charles Williams, instructor of the Seminar; assistant principal, Mr. John M. Trump, and three students currently enrolled in the course, Mary Laine Grosscup, William Barnhart, and William Koolage.

The small size of the class (15 students) encourages discussion which, students report, is a major activity of the course. However, one student felt that the course could be improved if still smaller discussion groups of five or six students, who were seriously interested in discussing deeply one idea or author, could be brought together for specific discussions.

Individual oral reports and term papers occupy an important place in the course. Topics reported on by students who were interviewed included Sufism and Buddism in the field of religion. One student was undertaking to analyze the influence of certain French authors on the French Revolution while another was preparing an oral report on Japanese drama. The efforts which students are asked to exert in this Seminar are determined, they feel, about half what the instructor requires and about half by their own choosing of topics or persons which they study more deeply. All respondents said that more time was spent in reading than in all other phases of the course.

Admittance of students

The World Literature Seminar is a one credit English course open to eleventh and twelfth grade students. Traditionally, it is elected more frequently by seniors. Students who have earned high grades in previous English courses and who have the grammar and mechanics of English well under control are urged to think of this course as one which will be particularly valuable in broadening their understanding of World Literature. While the course, theoretically, is an elective possibility available to anyone the course description states clearly that much time will be spent in reading philosophy and famous works of literature; consequently, many students are not interested in the course. The classroom instructor's judgments, too, are given much weight in determining whether a pupil shall be admitted to the class and the judgment is based largely on a data available on each student's academic record and potential which is available in the counselor's office. In general, the students who are in the course have a record of "B" or better in previous English courses and in their total high school work. At times, however, students with a slightly poorer record who appear to be particularly "ready" for the course are admitted.

Schedule

The class is scheduled for five periods per week during the regular school day. While some flexibility of time usage has occurred Monday, Wednesday, and Fridays have been used, generally, for lecture presentations, follow-up discussion on the ideas advanced in the lectures and in hearing reports from students on their research reading. Tuesday and

Thursday are used for individual reading and for occasional conferences, as it is necessary to schedule them, with the instructor. Students reported that the two days per week reserved for reading were particularly worthwhile. The class meets in a regular English room which has a small supplementary library available for student use.

Staff

The Seminar is taught by an experienced and able teacher of English and dramatics. The school administrators believe that the instructor is exceptionally well-qualified, in terms of background reading and speculative interest, to teach in this "Seminar fashion" and students interviewed tended to support this judgment.

While most of the instruction of the course is done by one person special resource persons are brought in from the Miami University campus or from the high school staff when it is believed they can make a good contribution.

Value in the School Program

The Seminar was originally considered as a promising enrichment possibility which might be offered in a new school setting. As such it was not regarded as being limited, necessarily, to able students but after seeing a program of this type work well with high ability students in Dayton-Fairview High School enrollment considerations were changed so that students selected have been for the most part, very able learners. As an enrichment course the Seminar is deliberately planned to go beyond the material currently available in many high schools in the fields of American and English Literature. The roots of literature and the humanities in general go back beyond the culture of Western Europe and it is felt that able high school students can study from original writings about man's earliest strugggles with his reason for being.

As the course has developed it is judged by students to be particularly worthwhile in helping them develop the ability to think critically. It has opened many new doors of reading interest beyond those normally developed in high school.

Students commented about the value of being able to think about "big ideas" and not being held to the memorization of small facts. Students observed that the course was valuable in that they were given "loose assignments" which they were expected to work through on their own terms and they regarded this as similar to the way they would be asked to develop term papers in college—hence the course, for them, appeared to be good orientation for college work.

The instructor observed that many high school students were able and ready to discuss controversial issues in the field of ethics, morals, and religion and that they might profit from the opportunity while in high school, to develop some of the doubting attitude which is often found in college undergraduates.

The emphasis placed in the course on being able to outline a report and to follow the outline in interesting fashion provides good practice for the persons giving the reports and equally good practice for the persons who are trying to learn how to take good notes.

History

The Seminar program in the Talawanda Senior High School began in 1958 and has enrolled approximately 15 students each year. The impetus for starting the program was generated through cooperative action on the part of superintendent, principal, and instructor. The original design of the program was prepared by principal and instructor as they visited other schools notably Dayton-Fairview; subsequent revision of the program has been done chiefly by the classroom teacher.

The new high school building, an excellent plant, was opened in 1957 and the desire to improve program as well as facilities may have had something to do with the decision to inaugurate this course for gifted students.

ZANESVILLE-MUSKINGUM COUNTY SCIENCE SEMINAR

General Overview

The science and mathematics seminar program involving Zanesville and Muskingum County students was organized in the spring of 1957 with active support from the Joe Berg Foundation. The class has an enrollment of approximately 50 students and it meets on Monday, 7:00-9:30 p.m. Students are involved heavily as "discussion leaders" on various topics but individual projects are less important than is true in many Joe Berg seminars.

The program appears to have a secure place in the program for educating superior science students in the Muskingum County area.

Program

The science and mathematics content of the seminar program is determined primarily by five planning groups. The areas generally included are physical science, biology, general science, mathematics and either electronics or chemistry. A program planning group consists of a chairman and five other lay persons who work with him in outlining content which is thought to be appropriate within each area. Each group takes responsibility for approximately one-fifth of the year's programs.

Students are assigned to the five major groups with seniors being assigned first on the basis of their preferences, juniors assigned second, finally sophomores' interests are honored to the extent that it is possible.

While there is no single style in which all programs are planned and presented, it is rather customary for the program planning group to select a speaker and then to involve the students assigned to the area represented by the speaker to take program responsibilities also. The program for one evening consisted of a topic, "The Metallurgy of Iron and Steel". During that evening eight students reported on various

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The material on which this report was based was obtained from Mr. Ralph Storts, Assistant Superintendent of Schools, Zanesville, Ohio, Glen Ruestig, Director of the Science Seminar Program for the 1960-61 school year, and Professor William Adams, a Muskingum professor who has been active in the entire history of the seminar program. Miss Ruth Friedeman, senior, Zanesville High School; John Fauley, senior, Roseville High School; and Jay Elliott, senior, New Concord High School were also interviewed.

aspects of metallurgy and a metallurgist from Armco Steel Corporation extended and integrated their reports during the remainder of the evening. On another evening seven students reported on various aspects of the ceramic industry and a professor of ceramic engineering from Ohio State University was responsible for the final part of the evening's program. Student reports on a program devoted to geology were on topics such as the origin of the earth, oceanography, and earthquakes. Other illustrative topics studied by the seminar include, the universe of Einstein, telephone and television transmission, civil engineering and land surveying. In addition to these scientific and mathematical topics, professors of philosophy and psychology have appeared before the group as had the chief engineer of the Muskingum Conservancy District.

Some evenings have been devoted to topics related to becoming a scientist or understanding how a scientist uses the library for research. One evening a librarian presented ideas and led a discussion on how students could use the library most effectively. A major portion of another evening was used to review matters associated with college selection and entrance. Still another evening found students instructed in how to present a more effective speech or report.

Students indicate that they spend more time in doing background reading preparatory to presenting reports or participating in discussions than on all other aspects of seminar work. All persons interviewed agreed that project work has become less important in the seminar. During the first year of the program all students had some kind of research effort underway, during the second year fewer students developed projects, and in the third year very few students were so engaged.

While students enjoy the program content they indicate that scientists sometimes find it difficult to do "a good teaching job". It was also reported that many scientists did not appear to be particularly concerned with providing a bibliography which could be used for reading prior to the meeting or to follow-it-up and, similarly, they did not document their lectures with references to exciting books or current periodicals in the fashion usually done by good science teachers.

Admittance of Students

Principals of the eleven participating schools in the Zanesville-Muskingum County seminar recommend students for the admittance examination. Approximately the top three per cent of the sophomore classes (about 70 students) are recommended on the basis of their past school records. The science aptitude screening test is administered by a local psychologist and approximately the top 20 sophomore students are admitted to the program.

A student's over-all record is important in determining whether he will be recommended by his principal and it is the opinion of students that some of their fellow classmates who are highly interested and able in science are not recommended because they have made inadequate grades in other subjects.

Being admitted into the program is an important "status symbol" and it is reported that some girls who are not particularly interested in science have stayed with the program because of parent insistence.

Schedule

The class meets weekly during the school year on Monday, 7:00-9:30 p.m. Monday evening was found to be the best evening for students from all participating schools and it was also found to be a good evening for lay persons.

Staff

The staff consists primarily of scientists and engineers employed by the leading industries in the area. At the first organizational meetings held in 1958 approximately 22 "heads of industrial plants" pledged their active support to the program. Out of this decision and its implementation it was possible to develop an initial staff of 56 persons. During the first year almost half of this group attended the meetings regularly, but attendance has fallen off markedly in subsequent years. It is judged, however, that approximately 35 staff members still identify closely with the project and can be used as resource persons. The staff consists primarily of engineers in the field of electrical engineering, industrial engineering and civil engineering. Three physicians have been active in the program and several college professors from nearby institutions, notably Muskingum College, have made important contributions.

Value in the School Program

Persons interviewed believe that the seminar has achieved its intended purpose of stimulating greater interest in science and mathematics. The reports and discussions have challenged some of these high ability students to operate at a level beyond that demanded in their regular classes.

The seminar has also provided an over-view of various fields of science and technology which might offer vocational possibilities to students who would not hear of these opportunities in the normal guidance or counseling program.

While the reasons mentioned above were primarily goals in establishing the seminar, a side result has been that of bringing industry somewhat closer to the schools. Resource persons, as they have worked with students, have identified more closely with the problem of providing excellent educational opportunities for their children in all fields of instruction.

History

In 1958 the central office personnel of the Zanesville Public Schools read of the success which the Joe Berg Science Seminars were reported to be having in a few school systems. On the basis of this article in the *Christian Science Monitor* and in view of the growing concern for more challenging opportunities for gifted students, it was recommended to the Board of Education that a representative from the Berg Foundation be invited to explain the program. The recommendation was approved and Mr. Shapiro, of the Berg Foundation, met with leading industrialists, the school board, and school administration and made a presentation which sounded promising.

Continuing leadership for the program has been provided primarily by the Assistant Superintendent of the Zanesville Public Schools. High school science teachers have not identified actively with the program and may actually be avoiding "getting tied up" with it.

The Board of Education has made small funds available for purchase of library materials but the program has been largely the result of a substantial investment of effort on the part of leading scientists and engineers in the community.

Other Aspects of Interest

While encouragement of scholarship was originally intended to be the main purpose of the seminars, students report that the social contacts they have made with outstanding students from other schools have been a very rewarding part of the seminar.

Lay persons report that they "know very little about teaching" and sometimes feel handicapped by this condition. It was also reported that it would be a good idea to involve science teachers in a more active role in the seminar. Many things might be related effectively to the school program if there would be a bridge between science classes in the high schools and this science seminar group. For this reason it might prove to be a good idea to assign sponsorship of the seminar to a staff member as a part of his teaching load.

CHAPTER III

SUMMARY AND CONCLUSIONS

Ohio high school administrators and teachers are starting to test the promise of seminars as an instructional approach for academically gifted students. This testing is occurring in a small number of the schools although one-third of the selected "leadership school systems" (see P. 4, Chapter I) indicated that their programs included some type of seminar classes. The total number of Ohio high schools with seminar programs located through this study and through self-identification* to the State Department of Education is between 25-35 schools—this is approximately 2% of the public high schools in Ohio.

Seminar Programs

The fifteen school systems included in this survey offer "seminars" in many instructional fields and at various grade levels as indicated in (Table I.)

Seminars in Science and Mathematics

This table supports the commonly accepted belief that concern for educating gifted children is concentrated in the fields of science, mathematics, and English. A majority of the science and mathematics seminars described in this report have been organized with active support of the Joe Berg Foundation, 1712 South Michigan Avenue, Chicago 16, Illinois. School administrators or teachers directing letters of inquiry to the foundation will receive literature which describes in detail a recommended procedure for organizing a science-mathematics seminar based on heavy lay participation of persons such as scientists, engineers, and physicians.**

The growth of Berg science and mathematics seminars is such that a careful study should be made of their strengths and weaknesses. While the writer can not presume to speak with much authority on Joe Berg Seminars in Ohio high schools several hours were spent in examining some of these programs for the academically gifted and the following observations can be made.

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* Schools known to have seminars which, for various reasons, were not included in this study are: Bay Village, Bexley, Celina, Defiance, Girard, Kettering, Medina, Miller, Piqua, O.S.U. University School.

** See the report of the Marion, Ohio experience (Page 44) as an example of the extent to which lay persons carry the program in some committee.

Table I — Kind and Location of Seminar Classes in Ohio Schools

Instructional Areas	Schools offering seminar type classes at designated grade level		
	ELEMENTARY	JUNIOR HIGH	SENIOR HIGH
Science	Akron	Akron Columbus Eastmoor	Alliance Cincinnati Columbus Eastmoor Lakewood Marion Zanesville & Muskingum Co.
Mathematics	Akron	Akron	Alliance Lakewood Cincinnati Marion Zanesville & Muskingum Co.
English	Akron	Akron	Akron Akron Buchtel Cincinnati Cleveland Heights Rocky River Talawanda (Oxford)
Social Studies		Oakwood	Lakewood Port Clinton
Art	Akron	Akron	Akron Cincinnati
Music		Akron	Akron
Business Education			Cincinnati
French			Rocky River
Great Books			Ravenna
Greek Drama			Shaker Heights
Broad Fields			Lima

The initial appeal of this seminar program is great. As it is presented through available literature and even more effectively by a field representative, available without charge to the local school system, the program catches up high interest among scientists, engineers, physicians and similar groups. These persons are often willing to give generously of their time to improve the learning opportunities for students gifted in science and mathematics. During the first few months of operation it it not unusual to find many lay adults attending the meetings—learning along with the students. Some scientists are willing to invest considerable time in working closely with students on special, highly individualized projects.

After several months of operation there is a leveling off of interest at a level substantially below that of the first few months. Some lay persons are "overused", others have not been contacted as resource persons even though they have volunteered their services. The writer attended some end-of-year evaluation sessions where questions were raised about the desirability of continuing the seminar programs. More generally, however, the questions were directed toward improving the program by selecting more interesting lecture topics, arranging for better sponsorship of individual projects, and relating the seminar program more closely to regular classroom work.

The Berg seminar program raises several persistent questions of policy and these include the extent to which the regular high school science teachers should be associated with the seminar program. Students sometimes "get caught" between the non-credit enrichment work they want to do for the seminar and their work in regular science classes which they also want to do well. Some students would welcome more opportunity to use the school laboratories, materials, and their regular science teachers in working through seminar projects.

Without doubt the Berg Seminar plan brings recognition to a small group of highly gifted students. Being selected for the program is an important status symbol although, without exception, the students selected have already enjoyed unusual academic success. Student interviews uncovered a possibility with which the writer is inclined to agree —some students selected into the program would prefer to withdraw but dare not because of a loss of status while other students highly gifted in science, but less productive in other subjects, have been hurt by exclusion from the program. It is quite likely that some of the large high schools with one science seminar group could establish another one with very little diminution of ability or interest in the students comprising the second group.

Scheduling science seminars as extra-hour non-credit classes solves some problems but creates others. Students who qualify for the program may already be scheduled to take five major subjects. This type of academic load plus continuing interests in music, athletics, school government, school publications, and other activities can provide a serious overload problem to some seminar members. It is likely that better solutions to problems of scheduling and credit will need to be developed in the years ahead.

The Berg seminar program provides students with an excellent overview of vocational possibilities in scientific fields. It is quite likely, however, that many students who could profit greatly from this overview are denied it simply because they have not "made" the seminar group.

Columbus Eastmoor, Akron, and Cincinnati have developed science seminar programs independently of Berg Foundation support and it is almost certain that some other Ohio high schools have made similar efforts. At this time, however, it appears that the Berg approach to organizing science seminars is still the model being used most frequently in Ohio.

Seminars in English

Seminars in the instructional field of English are appearing with increasing frequency. They are, apparently, almost as numerous as those in sicence. English seminars may concentrate on a broad overview of literature as well as a depth consideration of some of the readings (Akron Buchtel and Talawanda) or they may focus much more heavily on a single writer or period of time (Cleveland Heights). Attention to writing improvement may be one aspect of seminar work or it may be the major focus as it is in the Akron Creative Learning writing classes.

The six English seminar programs were quite different but it was apparent that each was planned to utilize the teaching strength of the faculty person in charge. It appears that much of the success of the English Seminars, as well as the Greek Drama Seminar at Shaker Heights which developed from an English course, is related to the "expertness" of the instructors. This condition poses many exciting possibilities for using the high level scholarship of other English teachers, too.

Gifted students frequently become bored (as do gifted teachers) with repetitive, unchallenging, textbook materials in literature and composition. These students and teachers, if given the opportunity, can use a seminar setting for examining difficult ideas as they are developed through careful reading and reflection by teachers as well as students. English seminar students do a tremendous amount of reading, frequently in books of their own choosing. Their discussions, in both written and oral form, tend to be at a level not reached often in regular English classes.

Seminars in Other Fields of Instruction

School systems visited during this survey were frequently apologetic for not offering seminar opportunities for advanced study in fields other than science, mathematics, and English. The national concern for "better than the Russian" scientists and the even greater concern with doing well on college entrance examinations were cited most frequently as reasons for offering seminars and advanced placement courses in the three fields mentioned above.

The program of advanced work in these fields, however, in the case of Oakwood Junior High School opened up the opportunity for a seminar group in social studies. Accelerated and advanced placement programs in mathematics and science and special ability groupings in English were judged to be sufficiently challenging for able learners throughout the entire spread of high school years. This situation, therefore, in the view of the school leadership, made it possible to organize a high ability seminar group in the social studies area. The seminar was organized with eighth and ninth grade students since it was judged that their over-all schedule was less demanding than that of older high school students.

Seminars in Art, Music and Business Education were not found in the regular school year but were offered as Enrichment or Creative Learning Classes in summer programs of Akron and/or Cincinnati. In all cases these courses were scheduled in a large block of time (generally four hours) and this condition permitted an intensive kind of involvement in the laboratory setting which is impossible in the regular school year. The time was used not only for laboratory work designed to improve skill but it was often used for discussions of what is involved in the creative act and a study of how other creative persons have handled their ideas and materials. Excellent satisfaction was reported with these summer programs and they appear to be one of the most promising developments uncovered in this survey. Further study should also be made of the promise of the "broad fields" seminar approach used in the Lima, Ohio system which is described in Chapter II. The "openness" of the program appears to be particularly effective in encouraging students to develop a research interest or project of great meaning to them. The unstructured nature of the seminar also encourages students to read and discuss in many fields of learning. Thus students develop wider interests than occurs in the more limited seminars such as those in science or English.

Credits and Grades for Seminar Work

Most seminars are non-credit and no-grade propositions although a few exceptions may be found in the case reports comprising Chapter II.

Credit is not given for a variety of reasons but the following three appear to be most common.

> Classes meet infrequently—many seminars meet only once per week. This amount of time is inadequate to meet state department of education standards for earning credit. Even though some students learn more from the one-meeting-per-week seminar than they learn from a daily class there is universal hesitancy toward granting credit for seminar work unless it is scheduled to meet daily. Study on this matter is needed since there is a strong likelihood that gifted students might be "earning" credit if any standard—other than time spent in class—would be used to measure learning.
>
> Credit not needed—Without exception the students enrolled in seminars are doing outstanding academic work. They have chosen to take extra work during summers as well as the regular school year. Thus they are in a position where extra credit is not necessary and it may be ignored as a possibility.
>
> Content is individualized—The students in seminar classes generally engage in much independent study. The marine biology interest of one student is quite different from the nuclear physics interest of another. Similarly the reading interests of English seminar students vary widely. Present units of credit do not begin to include the wide range of subjects studied by seminar students; the entire question of what kind of credit to give can be avoided by the simple expedient of not giving any.

Further study should be made to determine the advantages and disadvantages of giving credit for seminar work. It is quite possible that granting credit would result in larger interest in some schools, particularly from the group of students already overloaded with academic and extra-curricular commitments. Further study might suggest that a seminar need not be something "extra" but that it might be a better way for some students to earn regular credit in their major fields of study.

Seminar work is generally not graded in the conventional manner. It is assumed that each student is working toward important self-defined goals. Students who are selected into seminar programs tend to be those who believe "learning is its own reward".

In most seminar programs it is understood that a student may participate as long as (1) he is doing his best to learn from and contribute to the seminar, and (2) the seminar program does not affect, adversely, his regular school work.

All persons interviewed during this study agreed that grading was *not* a problem and that students involved in the seminar classes were more interested in learning than in grades.

Selecting Seminar Students

The general criteria used to select students for seminar classes are presented in Table II which was prepared for summary purposes only. The table undoubtedly contains some errors of unintentional omission.

No table can portray the outstanding quality of students involved in seminar programs. Their eagerness for future learning is matched only by that which they have demonstrated in the past. They are interested in "everything" and their interests are not limited to the academic fields since many reported heavy involvement with school yearbooks, music, dramatics, and athletics. Student government constitutes still another area in which these gifted students are conspicuously successful.

Without exception the students who were interviewed planned to continue their education in college. Frequently, they had chosen a tentative course of study as well as a college although there were interesting exceptions such as the young man who had been accepted by three "prestige" Eastern colleges but who was waiting, hopefully, for acceptance from a fourth college which had been *his* first choice. While many students were planning for vocations in science and mathematics many others were interested in continuing their studies in languages or the humanities. A gratifying number (to the writer) were planning for teaching careers in their major fields of study.

The enthusiasm of all students interviewed toward their seminar programs is not surprising since seminar work opportunities tend to be open only to students who are clearly willing to bring a high level of personal commitment to the class. In some cases students who express interest in joining a seminar group are interviewed by the director or teacher who seeks to secure past evidence of a student's commitment to independent study, project work, or other elements of the projected seminar program. In some schools the seminar student is asked to put in writing his willingness to work hard to make the program successful. In almost all seminars it is assumed that a student will withdraw from the group whenever he or his teacher is dissatisfied with the level of work being produced.

No one is required to take a seminar class—students may withdraw at any time—being chosen for membership is an honor. Undoubtedly these conditions help build the high "esprit de corps" which could be sensed in every seminar group.

Table II — Criteria Used to Select Seminar Students

	Akron (Summer)	Akron Buchtel	Alliance	Cincinnati (Summer)	Cleveland Heights	Columbus Eastmoor	Lakewood	Lima	Marion	Oakwood	Port Clinton	Ravenna	Rocky River	Shaker Heights	Talawanda	Zanesville
High level personal commitment from seminar student	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Previous academic record of "B" or higher	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Permission of Parents	x	x	x	x	x				x	x				x		x
Permission of Seminar Director or Teacher		x	x		x	x		x			x		x	x	x	
Teacher's recommendation	x			x	x	x		x		x			x			
Principal's approval	x			x			x			x	x					x
Approval by Central Office and/or special committee				x			x		x	x						
I. Q. of 120 or higher	x		x	x		x					x					
I. Q. of 125 or higher		x					x	x	x					x		
I. Q. of 130 or higher					x					x			x			
Use of Special Tests			x				x		x							x

The criteria listed in Table II are not flexible but are applied with much concern for individual students. The standard of "all B's" or higher past grades may be waived for a student who, in the best judgment of the persons involved, is ready for a seminar class. Since seminar members almost always are persons of high achievement as well as high ability, however, the waiver must be considered carefully since it would be unfair to place an interested but weak student in a situation in which he had little likelihood of achieving at a level which would satisfy himself as he sees the work of his classmates.

Admission to a seminar class often requires not only high student interest and proven achievement but special permission from school personnel responsible for a student's guidance.

Parent permission (written) is required in half of the seminars studied and it is probable that all parents of children enrolled in seminar classes are fully aware of the nature and intent of these programs. Seminar programs often make unusual demands on students for special readings and reports as well as class meeting times. There is always the possibility that seminar work might "interfere" with regular class work. Reasons such as these undoubtedly have helped shape the requirement of parent permission.

Permission of a sponsoring teacher, the seminar teacher, the principal, or a special selection committee may also be required. Seldom would all of these be used in a single school although it is not unusual for two or three levels of "clearance" to be required for admittance to a seminar class. The exact procedure used in the various seminars is found in the reports comprising Chapter II. These vary greatly, as might be expected, with the size of the school systems and other factors. In all cases however they have served the purpose of screening out doubtful students and thus building the extremely able groups of students found in the seminar programs.

The I.Q. criteria listed in Table II may be misleading since, without exception, school systems reported that the requirement might be "cut a little" if this appeared to be the wise thing to do. While an intelligent number of exceptions are made it appears safe to conclude that the odds are heavy against anyone with an I.Q. of less than 125 being admitted to seminar classes as they are now organized in Ohio high schools.

The seminar groups, in summary, are comprised of students who are eager to learn, are proven achievers, are participating with the encouragement of parents, teachers, and administrators, and are among the most intelligent in the school systems. They constitute groups of the greatest promise and challenge to teachers and administrators trying to develop better programs for educating the gifted.

Seminar Schedules

Nowhere is the uncertainty of the intent, nature and purpose of seminars more apparent than in the scheduled meeting times as they appear in Table III. This variation might be interpreted, as it is by the writer, as a most promising effort to discover how gifted children can use time most profitably. Admittedly the lock-step 48 minute period for everybody in everything has not worked out as well as was hoped in its earlier days.

Gifted children frequently express dissatisfaction with the intolerably slow pace of readings and discussions and the over-concern for specific facts and dates as they are handled in regularly daily classes. Can these be minimized in another kind of schedule? How much could be accomplished by an able student on his own between weekly meetings? How satisfying would a weekly discussion prove to be? Can students profit from an intensive lecture-discussion 2½ hours long? How many students will attend before school or after dinner seminars? Only through direct experience can questions such as these be answered and the answer for one school or community is not necessarily transferable to another.

Seminars may be scheduled out of regular school time and earn full credit as is the case with the English classes at Akron Buchtel and Talawanda described in Chapter II. In these cases the "seminar" is fundamentally a teaching approach or design which is used with a specially selected high ability group of students. Study hall or other free time in the regular school day can be used for a special area seminar such as the one in science in Columbus Eastmoor. Still another, somewhat more daring, approach is to superimpose a seminar schedule over the regular class schedule for a small number of students selected for the seminar groups. This arrangement, as it is used in Lima, substitutes the seminar work for the regular class work six times per year for sophomores, twelve times for juniors, eighteen times for seniors. The writer found good satisfaction among staff and students with all of these schedule arrangements and it is likely that still others will be developed.

Non-credit seminars meeting once weekly immediately after school have been developed in several instructional fields and the present study found such groups in literature, world history, social studies and French. In all cases it was presumed that students would do considerable independent study between meetings and that the seminar meeting time would be spent in group interaction with, at times, the teacher taking major responsibility for a presentation or depth discussion of ideas.

While students involved in the after school seminars were not critical of the meeting time it was apparent that many problems are associated with this time including a rather short seminar class period, tardiness, and conflicts with other after school responsibilities such as athletics and work. With all of these limitations the once-a-week after school seminar is still, apparently, one of the easiest to organize and most satisfying seminars.

The intensive use of community resource persons such as scientists, college teachers, and physicians makes mandatory the after-dinner meeting for the Berg Science Seminar Programs. These groups meet almost weekly throughout the school year and in some cases (Alliance) a program has run continuously throughout a calendar year. In all cases an effort is made to keep project work going, possibly even at an accelerated pace, during the summer months. The motivation of students is such that interest remains high and attendance good even though the 7:00-9:30 p.m. meeting time poses some real problems for students, particularly for those who may live more than 15 miles from the meeting place as occurs with some students in Muskingum County.

Table III suggests, among other things, that gifted students are willing to report to school one hour early through an entire year to work with other able students to learn European History (or almost anything else). They are willing to work for 4 hours a day 6 days per week during summer vacation in seminars established for their special needs.

The eagerness with which gifted children adjusted their schedules to take advantage of opportunities created for them seems to reduce problems of scheduling seminar classes to a question of the second order. Regardless of when they are offered students will find it possible to attend.

Selecting Seminar Staffs

Most of the seminars included in this study are staffed by a single teacher, highly expert in the area of instruction in which the seminar is held. While the teacher generally counts the seminar as part of his assigned teaching load this is not uniformly so. In some cases the teacher has gladly assumed an overload in order to offer the seminar opportunity to students who could profit from it.

Securing good seminar teachers did not seem to be a major problem for most of the schools. Many high school teachers have strong undergraduate majors in their teaching fields and many have taken an advanced degree in a subject matter field. In some cases they have taught college summer or extension courses in subjects such as English, history or art. Teachers welcome the opportunity to work with a seminar group of gifted students.

Students are very frank in designating teachers with whom they would or would not work in the typical non-credit after-school seminar

Table III — Seminar Meeting Times

	Akron (Summer)	Akron Buchtel	Alliance	Cincinnati (Summer)	Cleveland Heights	Columbus Eastmoor	Lakewood	Lima	Marion	Oakwood	Port Clinton	Ravenna	Rocky River	Shaker Heights	Talawanda	Zanesville
Scheduled out of regular school day		x				x		x							x	
Once weekly—after school					x		x			x			x			
Once weekly—after dinner			x				x		x							x
Daily—before school											x					
Twice weekly—after school														x		
Once monthly—after school													x			
By arrangement—after school or during school day												x				
Five days per week, 3 hours per day	x															
Three days per week, 4 hours per day				x												
Six days per week, 4 hours per day				x												

class and with this student help school administrators should find it easy to identify the best teachers for seminar classes.

To a large extent seminar teachers appear to be self-selected almost as often as they are selected by supervisors or administrators. A teacher has unusual success in working with gifted students in his regular classes and out of this condition arises a mutual wish of teacher and students that the teacher-student relationship be continued. Sometimes a teacher will say "If we had more time we would ....". "In an advanced study of this we could ....". In these circumstances a group of students might approach the teacher and/or principal to see if a special class could be organized. The teacher, himself, might ask the principal if a special class, with or without credit, in or out of the regular schedule, could be arranged for some of his better students. In these cases it is apparent that the previous successful efforts of the teacher have been instrumental in selecting him for the new assignment.

Staffing the Berg Science Seminar classes is quite a different matter since this is normally done with heavy involvement of a lay committee and in many cases staffing decisions rest more heavily on lay than on school persons. Turning over to a lay committee the responsibility for securing speakers, arranging field trips, and planning programs generally may be the easiest but not necessarily the wisest course of action. Students remarked that some of the Berg lecturers "knew their stuff but couldn't get it across." Some lecturers were insensitive to the attention span of adolescents (even gifted ones) or knew little about good teaching techniques. Some were ineffective as discussion leaders.

There is apparently a staffing role in the Berg Seminar program which can be filled best by the teacher or administrator who can serve as the bridge between students and resource scientist. Schools that have used science teachers in this manner seem to be more successful than those who turn the program over to the local scientists and try to absolve themselves of any continuing responsibility.

Starting Seminar Programs

Seminars are started by persons responsible for improving the instructional program for able students. This, of course, includes teachers, principals, and central office personnel such as curriculum directors, assistant superintendents, and superintendents. The extent to which some or all of these persons were involved varied widely in starting the seminars described in Chapter II but some generalizations may be made.

Large system-wide programs such as those found in the Akron or Cincinnati summer sessions and the Berg Science Seminar program are started by superintendents and/or their assistants. Such programs may enroll hundreds of students, raise many policy questions, pose unusual staffing problems, or include unusual public relations problems. Such factors are of major importance and decisions about them must be made at the central office level.

The central office does not, however, attempt to "go it alone" when it assumes the responsibility for starting a seminar program. Throughout this study the writer was impressed with the universal tendency of all groups involved to work together cooperatively in developing the new seminar programs. Thus a program idea proposed by an assistant superintendent would be checked with principals who might, in turn, check it with some of their teachers. Teacher involvement is not eliminated when programs are started by central office personnel.

Seminar programs in single school buildings such as those described for Rocky River, Ravenna, and Akron Buchtel are often started by principals. The traditional concept of principal as instructional leader is supported by the results of this survey. Principals may develop the initial idea, they may encourage or support the efforts of a classroom teacher, they may be consulted by supervisors or others responsible for curriculum improvement. Their involvement in seminar matters such as student selection, staffing, scheduling, and providing special resources is inevitable but their contribution to Ohio's developing seminar program is far greater than this. Their enthusiastic leadership, encouragement, and support appear to constitute key factors in insuring success.

Seminar programs are started by teachers. In many cases the idea developed out of a teacher's day-to-day work with students in which the teacher sensed a need for special learning opportunities for the academically gifted in his class. Permission of the principal was secured, a meeting time was selected, and a seminar was underway. Some of the most interesting seminars reported in Chapter II are arranged in such easy fashion.

Certainly it is impossible to overemphasize the importance of the classroom teacher in developing a seminar program. Teachers may initiate the idea, as was suggested above, or they may advise with principals or other instructional leaders about the feasibility of beginning a program. Regardless of how the program is started the role of the teacher in selecting students, selecting content, and directing seminar programs is most critical. Fortunately there does not appear to be a shortage of teachers capable of creative thought and action in this field of curriculum improvement.

The General Nature and Promise of Seminar Classes

Teachers and administrators of seminars for gifted students in Ohio high schools appear to be just as concerned with helping students develop a wholesome attitude toward learning and toward self as they are in helping students master advanced subject matter content. Repeatedly throughout the interviews it was reported that seminar classes were valuable because they challenged gifted children to produce at the level of which they are capable. Implicit in this position is the belief that certain elements of regular classes do not provide the desired challenge.

Seminar students report that they often work harder for non-credit seminar classes than they do for regular classes in which they earn A's. The challenge of the advanced material and the association with others who are in the seminar, not for credit or for grade but for the sheer satisfaction of learning, helps build an attitude toward learning and self which is highly desirable. Hopefully, as seminar students grow through experience of this kind they will become less satisfied with an "easy A" orientation to learning and will get increasing satisfaction from doing their very best for the self-satisfaction associated with this kind of effort.

Developing a good attitude toward and proficiency in the skills of independent study is another aim realized in many seminar classes. The student is urged to be on his own, he is encouraged to read as widely as his time and purpose permit, he will see other students working independently in a pursuit of their purposes and all of these factors will help develop the desired attitude in most seminar members. Many seminar classes stress the importance of high level individual project work and successful efforts in this phase of the work also builds an attitude toward learning and self which will permit the gifted child to achieve his potential more fully.

The attitudes toward learning and self described briefly in the foregoing paragraphs are acquired as students work with subject matter content more challenging than that available in the regular school program. Several respondents, students as well as staff, pointed out the seminars were not intended to pile on more work but they were intended to consider a *higher level* of work.

The degree to which a seminar can provide students an opportunity to study above the usual level is related to the time available. Obviously a class meeting daily should be able to do much more in this regard than one which meets weekly or even monthly. Without exception, however, students were most appreciative of their seminar opportunities to study advanced content.

Seminar students are involved most heavily in a wide use of library and other outside reading materials. The practice of reading from many sources, often of a contradictory nature, is encouraged; in this process it is hoped that students will acquire some of the scholarly research attitude which will serve them well in college and in later life. Students are urged to go to original sources—to read what critics as well as original authors have written. Since students will not be tested or graded on what they read they indicate that it is possible to think more of the "big ideas" which the author is trying to get across and not worry about all the little details which might be included in a quiz or test if the book were read for a regular course.

Students in literature and social studies seminars appreciated the opportunity to study conflicting ideas and points of view. This was done, not only through readings and presentations, but through lengthy discussions. It was their belief that the longer more involved discussions gave them greater opportunity to think matters through for themselves on a higher level than occurs in a regular class where less time is normally used for such discussions.

Science seminar students were most thankful that they could meet outstanding scientists and learn from their experience and practice. Even though the scientific lectures were sometimes almost too difficult students believed the lectures were valuable and they liked the idea of being "stretched" to understand the presentation. Students liked the idea of being able to study something without being held responsible for understanding it fully. The science seminar students were firm in their belief that many of the "not so clear" ideas presented during their first year of work with the seminar became much clearer in subsequent science classes or seminar sessions.

Advanced content for gifted students is not easily described in a report such as this but it is something easily found by able seminar teachers and their students. This is inevitable when emphasis is placed on independent study and research work.

Obviously much of what occurs in seminar classes may also occur in regular classes. Independent study, project work, open-ended assignments, wide use of library materials, and similar approaches to learning are used by many good teachers in conventional classes. There is, however, a much greater use of these techniques and an attitude toward learning in the seminar classes which is somewhat unique.

Organizing a seminar class can be a very simple and easy thing to do. Any accredited high school is likely to have the number of academically gifted students and the quality of teacher (at least one) which will insure beginning success. Organizing a seminar program can also be a slow and complex process involving many administrators, teachers, and lay persons. Both approaches have been used successfully in Ohio schools and both will continue. Undoubtedly other successful approaches will be developed. It is hoped that this survey of current practices may prove helpful to other school systems undertaking the task of developing seminar type classes for their students.

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